

FEDERAL AVIATION REGULATIONS



DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION—WASHINGTON, DC

CHANGE 5

**EFFECTIVE: AUGUST 1, 1996
AUGUST 19, 1996**

Part I-Definitions and Abbreviations

This change incorporates two amendments:

Amendment 1–45, Aircraft Flight Simulator Use in Pilot Training, Testing, and Checking and at Training Centers, adopted May 23 and effective August 1, 1996; and

Amendment 1–46, Airworthiness Standards: Aircraft Engines New One-Engine-Inoperative (OEI) Ratings, Definitions and Type Certification Standards, adopted May 30 and effective August 19, 1996. Section 1.1 is affected by both amendments.

Bold brackets enclose the most recently added material. The amendment number and effective date of new material appear in bold brackets at the end of the affected section.

Page Control Chart

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1 through 11	Ch. 4	1 through 11	Ch. 5

Suggest filing this transmittal at the beginning of the FAR. It will provide a method for determining that all changes have been received as listed in the current edition of AC 00–44, Status of Federal Aviation Regulations, and a check for determining if the FAR contains the proper pages.

Subsequently, the FAA issued Amendments 61-62 and 121-108 (38 FR 35443; December 28, 1973), effective December 19, 1973. These amendments, in part, revised parts 61 and 121 by authorizing certain maneuvers and procedures of the pilot-in-command proficiency check to be performed in an approved visual flight simulator, if the pilot being checked accomplished two landings in an airplane of the same type.

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In June 1988, the FAA received from a joint industry/FAA task force ¹ several recommendations on the expanded use of flight simulators in new and innovative training programs. The recommendations included (1) Establishing a training center certificate for a separate training entity certificated to conduct training, testing, and checking under 14 Code of Federal Aviation Regulations parts 61, 63, 91, 121, 125, 135, and 141; (2) centralizing an approval process for course programs and check airmen at the national level, with local approvals only for specialty (local or unique) courses; and (3) expanding and standardizing the use of flight simulators and flight training devices, while at the same time providing relief from certain provisions of part 121, appendix H. The task force recommended single point oversight of a certificate by the FAA (instead of separate Flight Standards District Offices (FSDO's) approving centers in their geographic areas), defining training center recordkeeping requirements, and providing relief from the medical certificate requirements for instructors and check airmen conducting training in only flight simulators and flight training devices. The task force submitted aircraft manufacturer recommendations as an addendum recommending that a manufacturer's training center provide the initial operating experience (IOE) for air carriers.

In April 1989, this task force examined the role of training centers that provide training, testing, and checking for air carrier and general aviation pursuant to contracts, particularly training using flight simulators and flight training devices. This task force, which was comprised of aviation representatives from special interest groups, aircraft manufacturers, air carriers, university flight departments, and training centers such as SimuFlite, FlightSafety International, and Northwest Aerospace Training Corporation, examined flight simulation instructor and evaluator issues, including prerequisites; initial and recurrent training; requirements for current medical certificates; necessary in-flight experience; training center issues such as recordkeeping, facilities, and equipment; and the training program approval process.

The formal recommendations of this task force were forwarded to the FAA in October 1989. Essentially, the task force recommended that the FAA standardize the use of flight simulators and flight training devices, provide a means to certificate entities called training centers, and permit the training centers to apply for national approval of core curriculums that could be used by individuals receiving training under parts 61, 121, 125, and 135. Following receipt of the recommendations, the FAA appointed an internal working group to consider the recommendations.

The FAA working group concurred with most of the recommendations of the task force and recommended that the FAA undertake a rulemaking project that would include the concept of a certificated training center.

Related Activity

Several other FAA rulemaking projects address some of the same sections of 14 Code of Federal Regulations (14 CFR) that are revised in this rule; however, this rulemaking addresses those sections as they relate to the use of simulation.

Special Federal Aviation Regulation (SFAR) No. 58, 'Advanced Qualification Program,' (Amendment 61-88, effective October 2, 1990, 55 FR 40262) allows air carriers conducting training and testing under part 121 or part 135 to develop innovative approaches to training. Most AQP training programs will involve the use of simulation.

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Devices such as airborne **ILS** simulators, ground trainers, instrument trainers, and flight trainers are not considered flight simulators or flight training devices under this part unless specifically evaluated and approved as such by the Administrator.

Flight Training Device

In several sections in this rule, flight training devices are listed with aircraft and flight simulators as permitted flight training equipment for various training, testing, or checking tasks of pilots, although no flight training device may exist for some tasks. The FAA intends to allow the possibility of approving flight training devices for training, testing, and checking a wide variety of tasks to allow and encourage the development of flight training devices in the future. By permitting the possibility of a wide variety of uses for flight training devices, which are generally less expensive than flight simulators, the FAA hopes to encourage the growth of simulation.

Section 61.1a defines a flight training device as a replica of an aircraft's instruments, equipment, panels, and controls that is located in an open flight deck area or in an enclosed aircraft cockpit. This definition includes the equipment and programs necessary to represent the aircraft in ground operations and flight conditions. As defined, a flight training device is not required to have a force cueing or visual system. However, like a flight simulator, a flight training device is a device that requires approval by the Administrator for all uses that may lead to credit for aeronautical experience, required training, testing, and checking.

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This rule recognizes that technological advances permit aircraft operated under part 91 to conduct Category III extreme reduced visibility landing approaches. Part 91, specifically §§ 91.191 and 91.205, proposed to include implementing requirements to conduct Category III operations. Part 61 has been amended to specify the training and testing requirements for Category III operations. Part 1, § 1.1, Category III approaches.

Simulated Instrument Flight Rules (IFR) Conditions

Some airmen have expressed concern about the meaning of the terms “simulated **IFR** conditions” or “simulated instrument conditions” in part 61. There appears to be confusion over whether these conditions can be achieved by the use of hood devices only. These terms are used throughout the 14 **CFR** to mean that instrument conditions may be simulated by artificially limiting pilot visibility outside the cockpit. Pilot visibility can be limited by a hood device, by artificially limiting visibility in an approved flight simulator or flight training device, or by other appropriate means. Section 61.45 permits the artificial limitation of visibility by these various means.

Tests and Checks

Generally, this rule uses the word “test” in lieu of the word “check.” Specifically, this rule uses the terms “initial test,” “recurrent test,” and “practical test.” These terms refer to an examination, whatever its nature, on which the applicant receives a grade, even though the grade may be only “pass” or “fail.”

An exception is found in § 61.58 that requires a “proficiency check” for a pilot in command (**PIC**) of an aircraft. A “proficiency check” is one type of periodic review of a pilot's proficiency as a **PIC**, whereas an initial test determines that pilot's qualification to be a pilot. Thus, when referring to this type of requirement, the FAA believes that the word “check” is more appropriate.

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of the words or terms might have a different definition in the context of a different part of 14 CFR. Only those definitions that have general applicability to all parts of 14 CFR are placed in part 1.

Airbus Service Company, Inc., (Airbus) recommended that this section be amended to include Air Transportation Ground Instructor, Air Transportation Flight Instructor, and Air Transportation Flight Instructor (Simulator Only) in the definition of authorized instructor.

The authority of the persons cited by Airbus to function as instructors is limited to service in part 121 or part 135. The persons with the instructor titles cited by Airbus are not necessarily holders of an FAA flight instructor certificate, and may perform certain flight instructor functions by virtue of holding an airline transport pilot (ATP) certificate. The privileges of persons cited by Airbus are not changed by this definition; they remain the same for the operating part for which the person was designated. Additionally, many of the persons cited by Airbus could qualify as an authorized instructor in other parts, including part 142. See the provision of § 61.1a(a)(2) as adopted.

One person stated that including the words “full-sized replica” in the definition of a flight training device precludes the approval of personal computer flight simulation technology.

The comment is accurate. The FAA is convinced that simulation has benefit only if behaviors learned can be transferred to the aircraft. The FAA is convinced that no effective transfer of learning has been demonstrated except from flight simulators and flight training devices that accurately replicate the performance of an aircraft. As discussed in the NPRM, AC 120-45, as amended, describes the minimum criteria for flight training devices which will result in replication of aircraft performance suitable for specific training, testing, and checking. The FAA has under development a new AC 120-46, “Use of Airplane Flight Training Devices (In Flight Training and Checking for Airman Qualification and Certification),” which will provide details about which tasks a particular level of flight training device may be used for training credit and which tasks one may be used for testing. At this time, no flight training aid based on what is commonly known as “personal computers” meets the criteria of AC 120-45. Accordingly, the use of personal computer flight simulation technology is considered unacceptable.

One commenter stated that this section, and all other proposed revised sections of part 61, should be deleted and considered in the phase II of the part 61, 141, and 143 review, which was referenced earlier as a related rulemaking project.

The FAA does not agree that this would be an appropriate action. The purpose of this rulemaking was to undertake a comprehensive review, and revision if necessary, of all rules with the potential for increasing the use of simulation for airman training, testing, and checking. Many of these rules are contained in part 61; therefore, the FAA proposed revisions to certain sections contained in that part.

§ 61.2 Certification of Foreign Pilots and Flight Instructors

This section proposed rules for training centers and their satellite training centers for issuing certificates and ratings outside the United States. Specifically, this section proposed that training centers, and their satellite training centers, certificated under part 142 of this chapter, be allowed to do the following outside the United States: (1) Add additional ratings and endorsements to certificates issued by the Administrator under the provisions of part 142; and (2) issue certificates to U.S. citizens within the authority granted to the training center by the Administrator.

The National Association of Flight Instructors (NAFI) commented that it has long been an FAA policy to not issue U.S. certificates or additional ratings to foreign nationals outside the United States.

The FAA agrees with the commenter that, under § 61.2, the FAA does not issue U.S. certificates to foreign nationals outside the United States unless issuance meets the need stipulated in that section. However § 61.2, has, for several years, allowed rating(s) to be added to a U.S. certificate of a foreign national outside the United States. Further, § 61.13 has, for several years, allowed the FAA to issue certificates and added ratings, subject to this need and to collection of the reimbursement fee required by part 187 (60 FR 19628; April 19, 1995; Fees for Certification Services and Approvals Performed Outside the United States, Rule and Notices.)

NAFI further states that proposed paragraph (b)(1) does not have a limitation contained in proposed paragraph (a)(1). It recommends that the following limitation contained in paragraph (a)(1) be added to paragraph (b)(1): “The pilot certificate or rating is needed for the operation of a U.S.-registered civil aircraft.”

Modern multinational corporations may operate aircraft of different countries of registry. The commenter has not provided sufficient rationale for imposing the U. S. certification restriction. The FAA has determined,

of the words or terms might have a different definition in the context of a different part of 14 CFR. Only those definitions that have general applicability to all parts of 14 CFR are placed in part 1.

Airbus Service Company, Inc., (Airbus) recommended that this section be amended to include Air Transportation Ground Instructor, Air Transportation Flight Instructor, and Air Transportation Flight Instructor (Simulator Only) in the definition of authorized instructor.

The authority of the persons cited by Airbus to function as instructors is limited to service in part 121 or part 135. The persons with the instructor titles cited by Airbus are not necessarily holders of an FAA flight instructor certificate, and may perform certain flight instructor functions by virtue of holding an airline transport pilot (ATP) certificate. The privileges of persons cited by Airbus are not changed by this definition; they remain the same for the operating part for which the person was designated. Additionally, many of the persons cited by Airbus could qualify as an authorized instructor in other parts, including part 142. See the provision of § 61.1a(a)(2) as adopted.

One person stated that including the words “full-sized replica” in the definition of a flight training device precludes the approval of personal computer flight simulation technology.

The comment is accurate. The FAA is convinced that simulation has benefit only if behaviors learned can be transferred to the aircraft. The FAA is convinced that no effective transfer of learning has been demonstrated except from flight simulators and flight training devices that accurately replicate the performance of an aircraft. As discussed in the NPRM, AC 120-45, as amended, describes the minimum criteria for flight training devices which will result in replication of aircraft performance suitable for specific training, testing, and checking. The FAA has under development a new AC 120-46, “Use of Airplane Flight Training Devices (In Flight Training and Checking for Airman Qualification and Certification),” which will provide details about which tasks a particular level of flight training device may be used for training credit and which tasks one may be used for testing. At this time, no flight training aid based on what is commonly known as “personal computers” meets the criteria of AC 120-45. Accordingly, the use of personal computer flight simulation technology is considered unacceptable.

One commenter stated that this section, and all other proposed revised sections of part 61, should be deleted and considered in the phase II of the part 61, 141, and 143 review, which was referenced earlier as a related rulemaking project.

The FAA does not agree that this would be an appropriate action. The purpose of this rulemaking was to undertake a comprehensive review, and revision if necessary, of all rules with the potential for increasing the use of simulation for airman training, testing, and checking. Many of these rules are contained in part 61; therefore, the FAA proposed revisions to certain sections contained in that part.

§ 61.2 Certification of Foreign Pilots and Flight Instructors

This section proposed rules for training centers and their satellite training centers for issuing certificates and ratings outside the United States. Specifically, this section proposed that training centers, and their satellite training centers, certificated under part 142 of this chapter, be allowed to do the following outside the United States: (1) Add additional ratings and endorsements to certificates issued by the Administrator under the provisions of part 142; and (2) issue certificates to U.S. citizens within the authority granted to the training center by the Administrator.

The National Association of Flight Instructors (NAFI) commented that it has long been an FAA policy to not issue U.S. certificates or additional ratings to foreign nationals outside the United States.

The FAA agrees with the commenter that, under § 61.2, the FAA does not issue U.S. certificates to foreign nationals outside the United States unless issuance meets the need stipulated in that section. However § 61.2, has, for several years, allowed rating(s) to be added to a U.S. certificate of a foreign national outside the United States. Further, § 61.13 has, for several years, allowed the FAA to issue certificates and added ratings, subject to this need and to collection of the reimbursement fee required by part 187 (60 FR 19628; April 19, 1995; Fees for Certification Services and Approvals Performed Outside the United States, Rule and Notices.)

NAFI further states that proposed paragraph (b)(1) does not have a limitation contained in proposed paragraph (a)(1). It recommends that the following limitation contained in paragraph (a)(1) be added to paragraph (b)(1): “The pilot certificate or rating is needed for the operation of a U.S.-registered civil aircraft.”

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The authority of the persons cited by Airbus to function as instructors is limited to service in part 121 or part 135. The persons with the instructor titles cited by Airbus are not necessarily holders of an FAA flight instructor certificate, and may perform certain flight instructor functions by virtue of holding an airline transport pilot (ATP) certificate. The privileges of persons cited by Airbus are not changed by this definition; they remain the same for the operating part for which the person was designated. Additionally, many of the persons cited by Airbus could qualify as an authorized instructor in other parts, including part 142. See the provision of § 61.1a(a)(2) as adopted.

One person stated that including the words “full-sized replica” in the definition of a flight training device precludes the approval of personal computer flight simulation technology.

The comment is accurate. The FAA is convinced that simulation has benefit only if behaviors learned can be transferred to the aircraft. The FAA is convinced that no effective transfer of learning has been demonstrated except from flight simulators and flight training devices that accurately replicate the performance of an aircraft. As discussed in the NPRM, AC 120-45, as amended, describes the minimum criteria for flight training devices which will result in replication of aircraft performance suitable for specific training, testing, and checking. The FAA has under development a new AC 120-46, “Use of Airplane Flight Training Devices (In Flight Training and Checking for Airman Qualification and Certification),” which will provide details about which tasks a particular level of flight training device may be used for training credit and which tasks one may be used for testing. At this time, no flight training aid based on what is commonly known as “personal computers” meets the criteria of AC 120-45. Accordingly, the use of personal computer flight simulation technology is considered unacceptable.

One commenter stated that this section, and all other proposed revised sections of part 61, should be deleted and considered in the phase II of the part 61, 141, and 143 review, which was referenced earlier as a related rulemaking project.

The FAA does not agree that this would be an appropriate action. The purpose of this rulemaking was to undertake a comprehensive review, and revision if necessary, of all rules with the potential for increasing the use of simulation for airman training, testing, and checking. Many of these rules are contained in part 61; therefore, the FAA proposed revisions to certain sections contained in that part.

§ 61.2 Certification of Foreign Pilots and Flight Instructors

This section proposed rules for training centers and their satellite training centers for issuing certificates and ratings outside the United States. Specifically, this section proposed that training centers, and their satellite training centers, certificated under part 142 of this chapter, be allowed to do the following outside the United States: (1) Add additional ratings and endorsements to certificates issued by the Administrator under the provisions of part 142; and (2) issue certificates to U.S. citizens within the authority granted to the training center by the Administrator.

The National Association of Flight Instructors (NAFI) commented that it has long been an FAA policy to not issue U.S. certificates or additional ratings to foreign nationals outside the United States.

The FAA agrees with the commenter that, under § 61.2, the FAA does not issue U.S. certificates to foreign nationals outside the United States unless issuance meets the need stipulated in that section. However § 61.2, has, for several years, allowed rating(s) to be added to a U.S. certificate of a foreign national outside the United States. Further, § 61.13 has, for several years, allowed the FAA to issue certificates and added ratings, subject to this need and to collection of the reimbursement fee required by part 187 (60 FR 19628; April 19, 1995; Fees for Certification Services and Approvals Performed Outside the United States, Rule and Notices.)

NAFI further states that proposed paragraph (b)(1) does not have a limitation contained in proposed paragraph (a)(1). It recommends that the following limitation contained in paragraph (a)(1) be added to paragraph (b)(1): “The pilot certificate or rating is needed for the operation of a U.S.-registered civil aircraft.”

Modern multinational corporations may operate aircraft of different countries of registry. The commenter has not provided sufficient rationale for imposing the U. S. certification restriction. The FAA has determined,

The FAA agrees with the suggestion of the commenters. Paragraph (e)(4) has been reworded to make it clear that an approved flight simulator may be used to meet the experience requirement of paragraph (e)(3) as well as to meet the Category II and Category III practical test requirements of part 61.

ATA and several air carriers commented that this proposal fails to include language excepting part 121 and part 135 certificate holders from compliance with this section. They point out that § 61.3 contains an exception for part 121 and part 135 operators from the qualification requirements for Category II operations.

The provisions of § 61.13 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Airbus suggested additional text for this section that would delete ILS approaches, because MLS, GPS, and other approaches are likely in the future.

The FAA agrees that the regulations need to be modified to reflect changing technology; however, this was not a subject of these proposals and cannot be addressed in this rule at this time.

Airbus also suggested that this section be amended to specify the quality of the simulated visual scene required for the practical test.

The FAA agrees that the quality of the simulated visual scene that may be used to complete the Category II or Category III practical test is of great importance. The sections of the rule that actually require and authorize training and testing to show competence in reduced visibility operations, §§ 61.3, 61.67, and 61.68, specify that the practical test must be accomplished under an approved training program of an air carrier for that air carrier's aircrews, or in an approved training program of a part 142 certificate holder. Training program approval criteria for each of those training programs specify, or will specify, that a flight simulator must be qualified and approved by the FAA for each maneuver, procedure, and crewmember task. Further guidance for the technical requirements of flight simulation is published in AC 120-40 and AC 120-45, as amended. The FAA believes that the quality control provided by the provisions described above is satisfactory. Quality of the visual scene in all modes of flight and the quality of simulation in general is a high priority for the FAA.

For the reasons discussed, this section rewords paragraph (e)(4) and is otherwise adopted as proposed.

§ 61.21 Duration of Category II and Category III Pilot Authorizations

In addition to a change in the title, this section proposed that Category II and Category III pilot authorizations would expire 6 months after last issued or renewed.

ATA and a few member air carriers commented that these proposals included a duration of authorizations that is too restrictive for part 135 and part 121 certificate holders.

The provisions of § 61.21 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Therefore, this section does not apply to a part 121 or part 135 certificate holder.

Therefore, this section is adopted as proposed.

§ 61.39 Prerequisites for Flight Tests

The FAA proposed in this section to specify a 60-calendar-day time limit for completion of all increments of the practical test (i.e., the oral increment, the flight simulator increment, and the flight increment).

In the event that the entire practical test is not satisfactorily completed within the prescribed 60 calendar days, an applicant is required to retake the entire practical test, including those increments satisfactorily completed more than 60 calendar days previously.

The FAA agrees with the suggestion of the commenters. Paragraph (e)(4) has been reworded to make it clear that an approved flight simulator may be used to meet the experience requirement of paragraph (e)(3) as well as to meet the Category II and Category III practical test requirements of part 61.

ATA and several air carriers commented that this proposal fails to include language excepting part 121 and part 135 certificate holders from compliance with this section. They point out that § 61.3 contains an exception for part 121 and part 135 operators from the qualification requirements for Category II operations.

The provisions of § 61.13 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Airbus suggested additional text for this section that would delete ILS approaches, because MLS, GPS, and other approaches are likely in the future.

The FAA agrees that the regulations need to be modified to reflect changing technology; however, this was not a subject of these proposals and cannot be addressed in this rule at this time.

Airbus also suggested that this section be amended to specify the quality of the simulated visual scene required for the practical test.

The FAA agrees that the quality of the simulated visual scene that may be used to complete the Category II or Category III practical test is of great importance. The sections of the rule that actually require and authorize training and testing to show competence in reduced visibility operations, §§ 61.3, 61.67, and 61.68, specify that the practical test must be accomplished under an approved training program of an air carrier for that air carrier's aircrews, or in an approved training program of a part 142 certificate holder. Training program approval criteria for each of those training programs specify, or will specify, that a flight simulator must be qualified and approved by the FAA for each maneuver, procedure, and crewmember task. Further guidance for the technical requirements of flight simulation is published in AC 120-40 and AC 120-45, as amended. The FAA believes that the quality control provided by the provisions described above is satisfactory. Quality of the visual scene in all modes of flight and the quality of simulation in general is a high priority for the FAA.

For the reasons discussed, this section rewords paragraph (e)(4) and is otherwise adopted as proposed.

§ 61.21 Duration of Category II and Category III Pilot Authorizations

In addition to a change in the title, this section proposed that Category II and Category III pilot authorizations would expire 6 months after last issued or renewed.

ATA and a few member air carriers commented that these proposals included a duration of authorizations that is too restrictive for part 135 and part 121 certificate holders.

The provisions of § 61.21 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Therefore, this section does not apply to a part 121 or part 135 certificate holder.

Therefore, this section is adopted as proposed.

§ 61.39 Prerequisites for Flight Tests

The FAA proposed in this section to specify a 60-calendar-day time limit for completion of all increments of the practical test (i.e., the oral increment, the flight simulator increment, and the flight increment).

In the event that the entire practical test is not satisfactorily completed within the prescribed 60 calendar days, an applicant is required to retake the entire practical test, including those increments satisfactorily completed more than 60 calendar days previously.

The FAA agrees with the suggestion of the commenters. Paragraph (e)(4) has been reworded to make it clear that an approved flight simulator may be used to meet the experience requirement of paragraph (e)(3) as well as to meet the Category II and Category III practical test requirements of part 61.

ATA and several air carriers commented that this proposal fails to include language excepting part 121 and part 135 certificate holders from compliance with this section. They point out that § 61.3 contains an exception for part 121 and part 135 operators from the qualification requirements for Category II operations.

The provisions of § 61.13 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Airbus suggested additional text for this section that would delete ILS approaches, because MLS, GPS, and other approaches are likely in the future.

The FAA agrees that the regulations need to be modified to reflect changing technology; however, this was not a subject of these proposals and cannot be addressed in this rule at this time.

Airbus also suggested that this section be amended to specify the quality of the simulated visual scene required for the practical test.

The FAA agrees that the quality of the simulated visual scene that may be used to complete the Category II or Category III practical test is of great importance. The sections of the rule that actually require and authorize training and testing to show competence in reduced visibility operations, §§ 61.3, 61.67, and 61.68, specify that the practical test must be accomplished under an approved training program of an air carrier for that air carrier's aircrews, or in an approved training program of a part 142 certificate holder. Training program approval criteria for each of those training programs specify, or will specify, that a flight simulator must be qualified and approved by the FAA for each maneuver, procedure, and crewmember task. Further guidance for the technical requirements of flight simulation is published in AC 120-40 and AC 120-45, as amended. The FAA believes that the quality control provided by the provisions described above is satisfactory. Quality of the visual scene in all modes of flight and the quality of simulation in general is a high priority for the FAA.

For the reasons discussed, this section rewords paragraph (e)(4) and is otherwise adopted as proposed.

§ 61.21 Duration of Category II and Category III Pilot Authorizations

In addition to a change in the title, this section proposed that Category II and Category III pilot authorizations would expire 6 months after last issued or renewed.

ATA and a few member air carriers commented that these proposals included a duration of authorizations that is too restrictive for part 135 and part 121 certificate holders.

The provisions of § 61.21 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Therefore, this section does not apply to a part 121 or part 135 certificate holder.

Therefore, this section is adopted as proposed.

§ 61.39 Prerequisites for Flight Tests

The FAA proposed in this section to specify a 60-calendar-day time limit for completion of all increments of the practical test (i.e., the oral increment, the flight simulator increment, and the flight increment).

In the event that the entire practical test is not satisfactorily completed within the prescribed 60 calendar days, an applicant is required to retake the entire practical test, including those increments satisfactorily completed more than 60 calendar days previously.

The FAA agrees with the suggestion of the commenters. Paragraph (e)(4) has been reworded to make it clear that an approved flight simulator may be used to meet the experience requirement of paragraph (e)(3) as well as to meet the Category II and Category III practical test requirements of part 61.

ATA and several air carriers commented that this proposal fails to include language excepting part 121 and part 135 certificate holders from compliance with this section. They point out that § 61.3 contains an exception for part 121 and part 135 operators from the qualification requirements for Category II operations.

The provisions of § 61.13 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Airbus suggested additional text for this section that would delete ILS approaches, because MLS, GPS, and other approaches are likely in the future.

The FAA agrees that the regulations need to be modified to reflect changing technology; however, this was not a subject of these proposals and cannot be addressed in this rule at this time.

Airbus also suggested that this section be amended to specify the quality of the simulated visual scene required for the practical test.

The FAA agrees that the quality of the simulated visual scene that may be used to complete the Category II or Category III practical test is of great importance. The sections of the rule that actually require and authorize training and testing to show competence in reduced visibility operations, §§ 61.3, 61.67, and 61.68, specify that the practical test must be accomplished under an approved training program of an air carrier for that air carrier's aircrews, or in an approved training program of a part 142 certificate holder. Training program approval criteria for each of those training programs specify, or will specify, that a flight simulator must be qualified and approved by the FAA for each maneuver, procedure, and crewmember task. Further guidance for the technical requirements of flight simulation is published in AC 120-40 and AC 120-45, as amended. The FAA believes that the quality control provided by the provisions described above is satisfactory. Quality of the visual scene in all modes of flight and the quality of simulation in general is a high priority for the FAA.

For the reasons discussed, this section rewords paragraph (e)(4) and is otherwise adopted as proposed.

§ 61.21 Duration of Category II and Category III Pilot Authorizations

In addition to a change in the title, this section proposed that Category II and Category III pilot authorizations would expire 6 months after last issued or renewed.

ATA and a few member air carriers commented that these proposals included a duration of authorizations that is too restrictive for part 135 and part 121 certificate holders.

The provisions of § 61.21 were not intended to apply to operations conducted by part 121 and 135 certificate holders since the FAA did not intend to propose, under § 61.3, that a letter of authorization be required for these operations. These parts prescribe their own requirements for such operations.

Proposed § 61.3 has been revised to make it clear that the exception for part 121 and part 135 certificate holders also applies to Category III authorization. (See the discussion of § 61.3).

Therefore, this section does not apply to a part 121 or part 135 certificate holder.

Therefore, this section is adopted as proposed.

§ 61.39 Prerequisites for Flight Tests

The FAA proposed in this section to specify a 60-calendar-day time limit for completion of all increments of the practical test (i.e., the oral increment, the flight simulator increment, and the flight increment).

In the event that the entire practical test is not satisfactorily completed within the prescribed 60 calendar days, an applicant is required to retake the entire practical test, including those increments satisfactorily completed more than 60 calendar days previously.

the rules to allow part 121 certificate holders to conduct a course to satisfy § 61.56; several courses presented by part 121 schools already satisfy the requirements of § 61.56. In accordance with the current provisions of that section, a person need not accomplish the flight review if that person has satisfactorily completed a pilot proficiency check, or a test for a certificate, rating, or operating privilege. Most, if not all, training and qualification activities undertaken by a part 121 or part 135 certificate holder are for one of these purposes.

Jeppesen-Sanderson commented that discussion and provisions for simulation not qualified for the landing maneuver should be deleted.

Based on experience with simulation, the FAA believes that the flight review can be successfully accomplished in an appropriate flight simulator or flight training device. Previously, landing maneuvers, which likely would be required during a flight review, could be conducted only in a flight simulator qualified as Level B or higher. Section 61.57(g)(3), however, provides a means for the review to be accomplished in a Level A flight simulator or in a flight training device.

One commenter said, in essence, that he believed the flight review should be an evaluation of maneuvers and procedures required for the issuance of the certificate applied for, and that not all maneuvers and procedures can be evaluated in a simulator.

The FAA agrees that not all maneuvers and procedures can be evaluated in a flight simulator at the present time. Turns about a point, *chandelles*, lazy eights, among others, currently cannot be simulated. However, § 61.56 does not require any specific maneuvers and procedures. An airman may complete a flight review in a simulator only if the review is undertaken after completion of an approved course. The FAA believes that the potential benefits of a structured review, subject to FAA approval, consisting of various subjects and a selection of various, but unspecified, maneuvers and procedures outweigh the fact that flight simulators cannot, at this time, replicate all maneuvers and procedures required of all certificate levels.

For the reasons discussed, this section is adopted as proposed.

§61.57 Recent Flight Experience: Pilot in Command

In addition to a change in the title of this section to indicate that it contains PIC currency requirements, the NPRM proposed to revise paragraphs (c) and (d) to read as follows

‘ (c) General experience.

(1) Except as otherwise provided in this paragraph, no person may act as pilot in command of an aircraft carrying passengers, or of an aircraft certificated for more than one required pilot flight crewmember, unless that person meets the following requirements-

(i) Within the preceding 90 calendar days, that person must have made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type of aircraft.

(ii) If the aircraft operated under paragraph (c)(1)(i) of this section is a tailwheel airplane, that person must have made to a full stop the landings required by that paragraph in a tailwheel airplane.

(2) For the purpose of meeting the requirements of this section, a person may act as pilot in command of a flight under day visual flight rules or day instrument flight rules if no persons or property are carried other than as necessary for compliance with this part.

(3) Paragraph (c) does not apply to operations conducted under part 121 or part 135 of this chapter.

(4) The takeoffs and landings required by paragraph (c)(1) of this section may be accomplished in a flight simulator or flight training device subject to the following—

(i) The flight training device or flight simulator must have been qualified and approved by the Administrator for landings; and

(ii) The flight simulator or flight training device must be used in accordance with an approved course conducted by a training center certificated under part 142 of this chapter.

(d) Night experience.

(1) No person may act as pilot in command of an aircraft carrying passengers at night (the period beginning 1 hour after sunset and ending 1 hour before sunrise as published in the American Air Almanac) unless, within the preceding 90 days, that person has made not fewer than three takeoffs and three

the rules to allow part 121 certificate holders to conduct a course to satisfy § 61.56; several courses presented by part 121 schools already satisfy the requirements of § 61.56. In accordance with the current provisions of that section, a person need not accomplish the flight review if that person has satisfactorily completed a pilot proficiency check, or a test for a certificate, rating, or operating privilege. Most, if not all, training and qualification activities undertaken by a part 121 or part 135 certificate holder are for one of these purposes.

Jeppesen-Sanderson commented that discussion and provisions for simulation not qualified for the landing maneuver should be deleted.

Based on experience with simulation, the FAA believes that the flight review can be successfully accomplished in an appropriate flight simulator or flight training device. Previously, landing maneuvers, which likely would be required during a flight review, could be conducted only in a flight simulator qualified as Level B or higher. Section 61.57(g)(3), however, provides a means for the review to be accomplished in a Level A flight simulator or in a flight training device.

One commenter said, in essence, that he believed the flight review should be an evaluation of maneuvers and procedures required for the issuance of the certificate applied for, and that not all maneuvers and procedures can be evaluated in a simulator.

The FAA agrees that not all maneuvers and procedures can be evaluated in a flight simulator at the present time. Turns about a point, *chandelles*, lazy eights, among others, currently cannot be simulated. However, § 61.56 does not require any specific maneuvers and procedures. An airman may complete a flight review in a simulator only if the review is undertaken after completion of an approved course. The FAA believes that the potential benefits of a structured review, subject to FAA approval, consisting of various subjects and a selection of various, but unspecified, maneuvers and procedures outweigh the fact that flight simulators cannot, at this time, replicate all maneuvers and procedures required of all certificate levels.

For the reasons discussed, this section is adopted as proposed.

§61.57 Recent Flight Experience: Pilot in Command

In addition to a change in the title of this section to indicate that it contains PIC currency requirements, the NPRM proposed to revise paragraphs (c) and (d) to read as follows

‘ (c) General experience.

(1) Except as otherwise provided in this paragraph, no person may act as pilot in command of an aircraft carrying passengers, or of an aircraft certificated for more than one required pilot flight crewmember, unless that person meets the following requirements-

(i) Within the preceding 90 calendar days, that person must have made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type of aircraft.

(ii) If the aircraft operated under paragraph (c)(1)(i) of this section is a tailwheel airplane, that person must have made to a full stop the landings required by that paragraph in a tailwheel airplane.

(2) For the purpose of meeting the requirements of this section, a person may act as pilot in command of a flight under day visual flight rules or day instrument flight rules if no persons or property are carried other than as necessary for compliance with this part.

(3) Paragraph (c) does not apply to operations conducted under part 121 or part 135 of this chapter.

(4) The takeoffs and landings required by paragraph (c)(1) of this section may be accomplished in a flight simulator or flight training device subject to the following—

(i) The flight training device or flight simulator must have been qualified and approved by the Administrator for landings; and

(ii) The flight simulator or flight training device must be used in accordance with an approved course conducted by a training center certificated under part 142 of this chapter.

(d) Night experience.

(1) No person may act as pilot in command of an aircraft carrying passengers at night (the period beginning 1 hour after sunset and ending 1 hour before sunrise as published in the American Air Almanac) unless, within the preceding 90 days, that person has made not fewer than three takeoffs and three

the rules to allow part 121 certificate holders to conduct a course to satisfy § 61.56; several courses presented by part 121 schools already satisfy the requirements of § 61.56. In accordance with the current provisions of that section, a person need not accomplish the flight review if that person has satisfactorily completed a pilot proficiency check, or a test for a certificate, rating, or operating privilege. Most, if not all, training and qualification activities undertaken by a part 121 or part 135 certificate holder are for one of these purposes.

Jeppesen-Sanderson commented that discussion and provisions for simulation not qualified for the landing maneuver should be deleted.

Based on experience with simulation, the FAA believes that the flight review can be successfully accomplished in an appropriate flight simulator or flight training device. Previously, landing maneuvers, which likely would be required during a flight review, could be conducted only in a flight simulator qualified as Level B or higher. Section 61.57(g)(3), however, provides a means for the review to be accomplished in a Level A flight simulator or in a flight training device.

One commenter said, in essence, that he believed the flight review should be an evaluation of maneuvers and procedures required for the issuance of the certificate applied for, and that not all maneuvers and procedures can be evaluated in a simulator.

The FAA agrees that not all maneuvers and procedures can be evaluated in a flight simulator at the present time. Turns about a point, *chandelles*, lazy eights, among others, currently cannot be simulated. However, § 61.56 does not require any specific maneuvers and procedures. An airman may complete a flight review in a simulator only if the review is undertaken after completion of an approved course. The FAA believes that the potential benefits of a structured review, subject to FAA approval, consisting of various subjects and a selection of various, but unspecified, maneuvers and procedures outweigh the fact that flight simulators cannot, at this time, replicate all maneuvers and procedures required of all certificate levels.

For the reasons discussed, this section is adopted as proposed.

§61.57 Recent Flight Experience: Pilot in Command

In addition to a change in the title of this section to indicate that it contains PIC currency requirements, the NPRM proposed to revise paragraphs (c) and (d) to read as follows

‘(c) General experience.

(1) Except as otherwise provided in this paragraph, no person may act as pilot in command of an aircraft carrying passengers, or of an aircraft certificated for more than one required pilot flight crewmember, unless that person meets the following requirements-

(i) Within the preceding 90 calendar days, that person must have made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type of aircraft.

(ii) If the aircraft operated under paragraph (c)(1)(i) of this section is a tailwheel airplane, that person must have made to a full stop the landings required by that paragraph in a tailwheel airplane.

(2) For the purpose of meeting the requirements of this section, a person may act as pilot in command of a flight under day visual flight rules or day instrument flight rules if no persons or property are carried other than as necessary for compliance with this part.

(3) Paragraph (c) does not apply to operations conducted under part 121 or part 135 of this chapter.

(4) The takeoffs and landings required by paragraph (c)(1) of this section may be accomplished in a flight simulator or flight training device subject to the following—

(i) The flight training device or flight simulator must have been qualified and approved by the Administrator for landings; and

(ii) The flight simulator or flight training device must be used in accordance with an approved course conducted by a training center certificated under part 142 of this chapter.

(d) Night experience.

(1) No person may act as pilot in command of an aircraft carrying passengers at night (the period beginning 1 hour after sunset and ending 1 hour before sunrise as published in the American Air Almanac) unless, within the preceding 90 days, that person has made not fewer than three takeoffs and three

the rules to allow part 121 certificate holders to conduct a course to satisfy § 61.56; several courses presented by part 121 schools already satisfy the requirements of § 61.56. In accordance with the current provisions of that section, a person need not accomplish the flight review if that person has satisfactorily completed a pilot proficiency check, or a test for a certificate, rating, or operating privilege. Most, if not all, training and qualification activities undertaken by a part 121 or part 135 certificate holder are for one of these purposes.

Jeppesen-Sanderson commented that discussion and provisions for simulation not qualified for the landing maneuver should be deleted.

Based on experience with simulation, the FAA believes that the flight review can be successfully accomplished in an appropriate flight simulator or flight training device. Previously, landing maneuvers, which likely would be required during a flight review, could be conducted only in a flight simulator qualified as Level B or higher. Section 61.57(g)(3), however, provides a means for the review to be accomplished in a Level A flight simulator or in a flight training device.

One commenter said, in essence, that he believed the flight review should be an evaluation of maneuvers and procedures required for the issuance of the certificate applied for, and that not all maneuvers and procedures can be evaluated in a simulator.

The FAA agrees that not all maneuvers and procedures can be evaluated in a flight simulator at the present time. Turns about a point, *chandelles*, lazy eights, among others, currently cannot be simulated. However, § 61.56 does not require any specific maneuvers and procedures. An airman may complete a flight review in a simulator only if the review is undertaken after completion of an approved course. The FAA believes that the potential benefits of a structured review, subject to FAA approval, consisting of various subjects and a selection of various, but unspecified, maneuvers and procedures outweigh the fact that flight simulators cannot, at this time, replicate all maneuvers and procedures required of all certificate levels.

For the reasons discussed, this section is adopted as proposed.

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(i) Within the preceding 90 calendar days, that person must have made three takeoffs and three landings as the sole manipulator of the flight controls in an aircraft of the same category and class and, if a type rating is required, of the same type of aircraft.

(ii) If the aircraft operated under paragraph (c)(1)(i) of this section is a tailwheel airplane, that person must have made to a full stop the landings required by that paragraph in a tailwheel airplane.

(2) For the purpose of meeting the requirements of this section, a person may act as pilot in command of a flight under day visual flight rules or day instrument flight rules if no persons or property are carried other than as necessary for compliance with this part.

(3) Paragraph (c) does not apply to operations conducted under part 121 or part 135 of this chapter.

(4) The takeoffs and landings required by paragraph (c)(1) of this section may be accomplished in a flight simulator or flight training device subject to the following—

(i) The flight training device or flight simulator must have been qualified and approved by the Administrator for landings; and

(ii) The flight simulator or flight training device must be used in accordance with an approved course conducted by a training center certificated under part 142 of this chapter.

(d) Night experience.

(1) No person may act as pilot in command of an aircraft carrying passengers at night (the period beginning 1 hour after sunset and ending 1 hour before sunrise as published in the American Air Almanac) unless, within the preceding 90 days, that person has made not fewer than three takeoffs and three

(i) The applicant's record shall be annotated with the statement, "Proficiency in circling approaches not demonstrated;" and

(ii) The applicant may not perform circling approaches as pilot in command when weather conditions are less than the basic VFR conditions described in § 9 1.155 of this chapter, until proficiency in circling approaches has been successfully demonstrated in an approved simulator or aircraft to a person authorized by the Administrator to conduct the check required by this section.

(3) If the flight simulator used pursuant to this paragraph is not qualified and approved for landings-

(i) The applicant must hold a type rating in the airplane represented by the simulator; and

(ii) Have completed, within the preceding 90 days, at least three takeoffs and three landings (one to a full stop) as the sole manipulator of the flight controls in the type airplane for which the pilot-in-command proficiency check is sought.

In an apparent reference to proposed paragraph (g), which required a pilot's first PIC proficiency check to be accomplished in an aircraft, FSI commented that it believes that part 142 will have the same supervision and scrutiny required of training programs currently conducted under part 121, and that even the first proficiency check should be allowed in a flight simulator, as currently permitted under § 121.439 (sic). (Apparently the commenter was referring to § 121.441.)

The FAA has considered the comment in the overall context of increasing the use of simulation in lieu of checking in an aircraft. The inclusion of a certificate limitation, as described in the discussion of §§ 6 1.64 and 6 1.158, requiring SOE for certain less experienced pilots, will assure that pilots first due a PIC proficiency check in a specific type aircraft will have had some aircraft experience. Accordingly, after further consideration, the FAA has concluded that proposed paragraph (g) is unnecessary and it has not been adopted.

Proposed paragraph (i) stated the following:

"(i) If a pilot takes the check required by this section in the calendar month before, or the calendar month after, the month in which it is due, the pilot is considered to have taken it when due, and future proficiency check due dates do not change."

AMR commented, "The proposed paragraph 61.58(i) leaves open the same questions that the existing language in parts 61.58(g) and 135.301(a) leave open. The proposed paragraph establishes a base month, and a 90-day window for checking." AMR continues that there are any number of good reasons why a pilot may not get the check required by this section within the specified time period, and that the proposed language does not address the case of a pilot whose currency has lapsed. It recommends that the period for checking be extended to include the period from the month before the month a check is due until 2 months after the month a check is due. It further recommends that another subparagraph be added to specify that, for those pilots who do not complete a proficiency check during the period due, a new 12-month period for proficiency check due dates will begin upon completion of the proficiency check.

The FAA does not agree that extending the acceptable time period for completion of a proficiency check for 2 months beyond the due date, and allowing a total window of 4 months for an annual proficiency check, is warranted. Safety dictates that a pilot's proficiency be checked regularly and with some degree of frequency. The FAA has found it acceptable to conduct annual proficiency checks. The scenario described by the commenter would allow annual proficiency checks to become 14-month proficiency checks.

The FAA does not agree that a new provision is necessary for pilots whose currency has lapsed. Paragraph (a) speaks to such a situation in that the pilot must be able to look back over the current month and the preceding 12 months or 24 months and find that he or she has completed the required check.

AIA and Boeing commented that this section should not contain new flight training device definitions.

Flight training device definitions are contained in § 61.1a, and the rationale for adding those definitions is provided in the discussion of that section.

As discussed above, the FAA has revised proposed paragraph (e) and deleted proposed paragraphs (f), (g) and (i), and redesignated remaining paragraphs accordingly. This section is adopted with the changes discussed.

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(3) If the flight simulator used pursuant to this paragraph is not qualified and approved for landings-

(i) The applicant must hold a type rating in the airplane represented by the simulator; and

(ii) Have completed, within the preceding 90 days, at least three takeoffs and three landings (one to a full stop) as the sole manipulator of the flight controls in the type airplane for which the pilot-in-command proficiency check is sought.

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(3) If the flight simulator used pursuant to this paragraph is not qualified and approved for landings-

(i) The applicant must hold a type rating in the airplane represented by the simulator; and

(ii) Have completed, within the preceding 90 days, at least three takeoffs and three landings (one to a full stop) as the sole manipulator of the flight controls in the type airplane for which the pilot-in-command proficiency check is sought.

In an apparent reference to proposed paragraph (g), which required a pilot's first PIC proficiency check to be accomplished in an aircraft, FSI commented that it believes that part 142 will have the same supervision and scrutiny required of training programs currently conducted under part 121, and that even the first proficiency check should be allowed in a flight simulator, as currently permitted under § 121.439 (sic). (Apparently the commenter was referring to § 121.441.)

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(3) If the flight simulator used pursuant to this paragraph is not qualified and approved for landings-

(i) The applicant must hold a type rating in the airplane represented by the simulator; and

(ii) Have completed, within the preceding 90 days, at least three takeoffs and three landings (one to a full stop) as the sole manipulator of the flight controls in the type airplane for which the pilot-in-command proficiency check is sought.

In an apparent reference to proposed paragraph (g), which required a pilot's first PIC proficiency check to be accomplished in an aircraft, FSI commented that it believes that part 142 will have the same supervision and scrutiny required of training programs currently conducted under part 121, and that even the first proficiency check should be allowed in a flight simulator, as currently permitted under § 121.439 (sic). (Apparently the commenter was referring to § 121.441.)

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AIA and Boeing commented that this section should not contain new flight training device definitions.

Flight training device definitions are contained in § 61.1a, and the rationale for adding those definitions is provided in the discussion of that section.

As discussed above, the FAA has revised proposed paragraph (e) and deleted proposed paragraphs (f), (g) and (i), and redesignated remaining paragraphs accordingly. This section is adopted with the changes discussed.

For the reasons discussed, paragraphs (c)(3) and (g)(3)(i) are adopted as proposed.

Section 61.65(e)(2)(ii) proposed that the 20 hours of instrument instruction by an authorized instructor in a flight simulator or flight training device, currently allowed under part 61, be increased to 30 hours of instruction in a flight simulator or flight training device if the instruction is accomplished in an approved course conducted by a training center certificated under part 142.

Paragraph (h)(1) of the proposed revision to this section would permit the total pilot aeronautical experience requirement for the instrument rating to be reduced from 125 hours of pilot flight time as currently required by § 61.65(e)(1) to 95 hours of pilot flight time, which may include 35 hours of simulated or actual instrument flight time if the entire instrument curriculum is accomplished under an approved part 142 course.

Andrews University asked why the increase in credit, and why part 141 pilot schools could not also have an increase to 30 hours

AMR Combs (AMR), an affiliate of American Airlines, and **NATA** commented that the proposals for certain reductions in aeronautical experience or instructional hours for the instrument rating conducted at a part 142 training center place part 141 pilot schools at a competitive disadvantage. They recommended that the FAA grant similar authority to part 141 schools that have approved flight simulators or flight training devices.

Jeppesen-Sanderson commented that if a reduction of required hours from 125 hours of pilot flying time to 95 hours is valid for part 142 then it is valid for part 141.

Another commenter said that the proposed reduction of pilot flying time to 95 hours under proposed paragraph (h)(i) does not do justice to the level of exposure a person should have to operate safely in the **IFR** environment. The commenter continues that he can attest to the difficulties encountered when experience requirements were reduced from 200 to 125 hours. The commenter believes that the level of skill required of the single-pilot **IFR** operation is the most demanding in aviation. The commenter states that the rigid oversight proposed for part 142 is commendable, but inadequate to compensate for the lack of experience.

The FAA believes that the proposed changes discussed above are justified based on innovative training concepts that will be a feature of part 142 training centers. The reasons for the creation of a new training entity and assigning specific authorities and privileges to it are discussed under a previous section in this document entitled "Discussion of the Amendments and the New Rule."

While part 141 allows the use of ground trainers, except for part 121 and part 135 certificate holders training their own aircrews, under this final rule, all flight simulator training, testing, and checking for which an airman is to receive credit to satisfy any requirement of 14 CFR must be accomplished in part 142 training centers. These training centers will be subject to more stringent training program requirements than part 141 pilot schools. Part 142 training centers will be substantially more sophisticated than schools certificated under part 141 by virtue of the use of the most advanced levels of flight simulation. They will have considerably more detailed and structured training programs, their instructors will be subject to more demanding qualifications, and they will have more interaction with potential air carrier clients than part 141 pilot schools have.

Experience has shown that there is a greater efficacy in more structured training using high fidelity simulation than in traditional aircraft-only or aircraft and complementary flight training device training such as provided by a part 141 pilot school. At present, under § 141.41, a part 141 pilot school may use a flight simulator only to the extent that a flight training device may be used. The requirements for the part 142 certificate are discussed in more detail in the applicable section-by-section discussion.

In response to the comment about placing part 141 pilot schools at an economic disadvantage, the FAA believes that the considerations discussed above justify the treatment afforded part 142 training centers. For the reasons discussed, the aeronautical experience requirements for the instrument rating can be reduced as proposed; all other proposals discussed above also are adopted in the final rule.

§61.67 Category II Pilot Authorization Requirements

The FAA proposed in paragraph (c)(4) of this section that the practical test for this authorization include approaches that need not be conducted down to the alert height or decision height, as applicable, authorized for Category II operations but only if the approaches are conducted in a flight simulator or flight training device. This section applies only to **ILS** approaches, since Category II applies only to **ILS** approaches by definition.

For the reasons discussed, paragraphs (c)(3) and (g)(3)(i) are adopted as proposed.

Section 61.65(e)(2)(ii) proposed that the 20 hours of instrument instruction by an authorized instructor in a flight simulator or flight training device, currently allowed under part 61, be increased to 30 hours of instruction in a flight simulator or flight training device if the instruction is accomplished in an approved course conducted by a training center certificated under part 142.

Paragraph (h)(1) of the proposed revision to this section would permit the total pilot aeronautical experience requirement for the instrument rating to be reduced from 125 hours of pilot flight time as currently required by § 61.65(e)(1) to 95 hours of pilot flight time, which may include 35 hours of simulated or actual instrument flight time if the entire instrument curriculum is accomplished under an approved part 142 course.

Andrews University asked why the increase in credit, and why part 141 pilot schools could not also have an increase to 30 hours

AMR Combs (AMR), an affiliate of American Airlines, and **NATA** commented that the proposals for certain reductions in aeronautical experience or instructional hours for the instrument rating conducted at a part 142 training center place part 141 pilot schools at a competitive disadvantage. They recommended that the FAA grant similar authority to part 141 schools that have approved flight simulators or flight training devices.

Jeppesen-Sanderson commented that if a reduction of required hours from 125 hours of pilot flying time to 95 hours is valid for part 142 then it is valid for part 141.

Another commenter said that the proposed reduction of pilot flying time to 95 hours under proposed paragraph (h)(i) does not do justice to the level of exposure a person should have to operate safely in the **IFR** environment. The commenter continues that he can attest to the difficulties encountered when experience requirements were reduced from 200 to 125 hours. The commenter believes that the level of skill required of the single-pilot **IFR** operation is the most demanding in aviation. The commenter states that the rigid oversight proposed for part 142 is commendable, but inadequate to compensate for the lack of experience.

The FAA believes that the proposed changes discussed above are justified based on innovative training concepts that will be a feature of part 142 training centers. The reasons for the creation of a new training entity and assigning specific authorities and privileges to it are discussed under a previous section in this document entitled "Discussion of the Amendments and the New Rule."

While part 141 allows the use of ground trainers, except for part 121 and part 135 certificate holders training their own aircrews, under this final rule, all flight simulator training, testing, and checking for which an airman is to receive credit to satisfy any requirement of 14 CFR must be accomplished in part 142 training centers. These training centers will be subject to more stringent training program requirements than part 141 pilot schools. Part 142 training centers will be substantially more sophisticated than schools certificated under part 141 by virtue of the use of the most advanced levels of flight simulation. They will have considerably more detailed and structured training programs, their instructors will be subject to more demanding qualifications, and they will have more interaction with potential air carrier clients than part 141 pilot schools have.

Experience has shown that there is a greater efficacy in more structured training using high fidelity simulation than in traditional aircraft-only or aircraft and complementary flight training device training such as provided by a part 141 pilot school. At present, under § 141.41, a part 141 pilot school may use a flight simulator only to the extent that a flight training device may be used. The requirements for the part 142 certificate are discussed in more detail in the applicable section-by-section discussion.

In response to the comment about placing part 141 pilot schools at an economic disadvantage, the FAA believes that the considerations discussed above justify the treatment afforded part 142 training centers. For the reasons discussed, the aeronautical experience requirements for the instrument rating can be reduced as proposed; all other proposals discussed above also are adopted in the final rule.

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For the reasons discussed, paragraphs (c)(3) and (g)(3)(i) are adopted as proposed.

Section 61.65(e)(2)(ii) proposed that the 20 hours of instrument instruction by an authorized instructor in a flight simulator or flight training device, currently allowed under part 61, be increased to 30 hours of instruction in a flight simulator or flight training device if the instruction is accomplished in an approved course conducted by a training center certificated under part 142.

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Jeppesen-Sanderson commented that if a reduction of required hours from 125 hours of pilot flying time to 95 hours is valid for part 142 then it is valid for part 141.

Another commenter said that the proposed reduction of pilot flying time to 95 hours under proposed paragraph (h)(i) does not do justice to the level of exposure a person should have to operate safely in the **IFR** environment. The commenter continues that he can attest to the difficulties encountered when experience requirements were reduced from 200 to 125 hours. The commenter believes that the level of skill required of the single-pilot **IFR** operation is the most demanding in aviation. The commenter states that the rigid oversight proposed for part 142 is commendable, but inadequate to compensate for the lack of experience.

The FAA believes that the proposed changes discussed above are justified based on innovative training concepts that will be a feature of part 142 training centers. The reasons for the creation of a new training entity and assigning specific authorities and privileges to it are discussed under a previous section in this document entitled "Discussion of the Amendments and the New Rule."

While part 141 allows the use of ground trainers, except for part 121 and part 135 certificate holders training their own aircrews, under this final rule, all flight simulator training, testing, and checking for which an airman is to receive credit to satisfy any requirement of 14 CFR must be accomplished in part 142 training centers. These training centers will be subject to more stringent training program requirements than part 141 pilot schools. Part 142 training centers will be substantially more sophisticated than schools certificated under part 141 by virtue of the use of the most advanced levels of flight simulation. They will have considerably more detailed and structured training programs, their instructors will be subject to more demanding qualifications, and they will have more interaction with potential air carrier clients than part 141 pilot schools have.

Experience has shown that there is a greater efficacy in more structured training using high fidelity simulation than in traditional aircraft-only or aircraft and complementary flight training device training such as provided by a part 141 pilot school. At present, under § 141.41, a part 141 pilot school may use a flight simulator only to the extent that a flight training device may be used. The requirements for the part 142 certificate are discussed in more detail in the applicable section-by-section discussion.

In response to the comment about placing part 141 pilot schools at an economic disadvantage, the FAA believes that the considerations discussed above justify the treatment afforded part 142 training centers. For the reasons discussed, the aeronautical experience requirements for the instrument rating can be reduced as proposed; all other proposals discussed above also are adopted in the final rule.

§61.67 Category II Pilot Authorization Requirements

The FAA proposed in paragraph (c)(4) of this section that the practical test for this authorization include approaches that need not be conducted down to the alert height or decision height, as applicable, authorized for Category II operations but only if the approaches are conducted in a flight simulator or flight training device. This section applies only to **ILS** approaches, since Category II applies only to **ILS** approaches by definition.

For the reasons discussed, paragraphs (c)(3) and (g)(3)(i) are adopted as proposed.

Section 61.65(e)(2)(ii) proposed that the 20 hours of instrument instruction by an authorized instructor in a flight simulator or flight training device, currently allowed under part 61, be increased to 30 hours of instruction in a flight simulator or flight training device if the instruction is accomplished in an approved course conducted by a training center certificated under part 142.

Paragraph (h)(1) of the proposed revision to this section would permit the total pilot aeronautical experience requirement for the instrument rating to be reduced from 125 hours of pilot flight time as currently required by § 61.65(e)(1) to 95 hours of pilot flight time, which may include 35 hours of simulated or actual instrument flight time if the entire instrument curriculum is accomplished under an approved part 142 course.

Andrews University asked why the increase in credit, and why part 141 pilot schools could not also have an increase to 30 hours

AMR Combs (AMR), an affiliate of American Airlines, and **NATA** commented that the proposals for certain reductions in aeronautical experience or instructional hours for the instrument rating conducted at a part 142 training center place part 141 pilot schools at a competitive disadvantage. They recommended that the FAA grant similar authority to part 141 schools that have approved flight simulators or flight training devices.

Jeppesen-Sanderson commented that if a reduction of required hours from 125 hours of pilot flying time to 95 hours is valid for part 142 then it is valid for part 141.

Another commenter said that the proposed reduction of pilot flying time to 95 hours under proposed paragraph (h)(i) does not do justice to the level of exposure a person should have to operate safely in the **IFR** environment. The commenter continues that he can attest to the difficulties encountered when experience requirements were reduced from 200 to 125 hours. The commenter believes that the level of skill required of the single-pilot **IFR** operation is the most demanding in aviation. The commenter states that the rigid oversight proposed for part 142 is commendable, but inadequate to compensate for the lack of experience.

The FAA believes that the proposed changes discussed above are justified based on innovative training concepts that will be a feature of part 142 training centers. The reasons for the creation of a new training entity and assigning specific authorities and privileges to it are discussed under a previous section in this document entitled "Discussion of the Amendments and the New Rule."

While part 141 allows the use of ground trainers, except for part 121 and part 135 certificate holders training their own aircrews, under this final rule, all flight simulator training, testing, and checking for which an airman is to receive credit to satisfy any requirement of 14 CFR must be accomplished in part 142 training centers. These training centers will be subject to more stringent training program requirements than part 141 pilot schools. Part 142 training centers will be substantially more sophisticated than schools certificated under part 141 by virtue of the use of the most advanced levels of flight simulation. They will have considerably more detailed and structured training programs, their instructors will be subject to more demanding qualifications, and they will have more interaction with potential air carrier clients than part 141 pilot schools have.

Experience has shown that there is a greater efficacy in more structured training using high fidelity simulation than in traditional aircraft-only or aircraft and complementary flight training device training such as provided by a part 141 pilot school. At present, under § 141.41, a part 141 pilot school may use a flight simulator only to the extent that a flight training device may be used. The requirements for the part 142 certificate are discussed in more detail in the applicable section-by-section discussion.

In response to the comment about placing part 141 pilot schools at an economic disadvantage, the FAA believes that the considerations discussed above justify the treatment afforded part 142 training centers. For the reasons discussed, the aeronautical experience requirements for the instrument rating can be reduced as proposed; all other proposals discussed above also are adopted in the final rule.

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The FAA proposed in paragraph (c)(4) of this section that the practical test for this authorization include approaches that need not be conducted down to the alert height or decision height, as applicable, authorized for Category II operations but only if the approaches are conducted in a flight simulator or flight training device. This section applies only to **ILS** approaches, since Category II applies only to **ILS** approaches by definition.

plished in an approved course conducted by a training center certificated under part 142. To be credited toward the total flight time requirement for a commercial pilot certificate, flight simulator or flight training device instruction received would have to be accomplished in a flight simulator or flight training device representing an airplane.

AMR, in a comment identical to several others, commented that the terms of proposed § 61.129(b)(1)(ii) should be made applicable to training under part 121, part 135, part 141, or SFAR 58.

For reasons discussed in the analysis of comments to § 61.65, additional flight time may be performed in a simulator and credited toward total flight time, only if the simulated flight time is accomplished in accordance with a training program approved under part 142, part 121, or part 135.

NATA commented that this section should be left unchanged.

Jeppesen-Sanderson commented that an approved part 142 commercial course would allow all training, including cross-country experience, to be conducted in a flight simulator or flight training device, and that “. . . it is impractical to conduct the entire commercial training program in a simulator or flight training device.”

In fact, the proposed rule would not affect the current requirement pertaining to cross country flights, and it proposed that a maximum of 100 hours of the total of 190 hours of aeronautical experience may be accomplished in a flight simulator under part 142. The justification for permitting up to 100 hours of training to be accomplished in a flight simulator may be found in the discussion of comments to § 61.65 and in the section of this document entitled “Discussion of the Amendments and the New Rule.”

The FAA has decided to omit the words “Approved commercial pilot training program conducted under part 142” from the title of paragraph (c). Paragraphs within a section do not normally have titles. With this change, this section is adopted as proposed.

§ 61.131 Rotorcraft Rating: Aeronautical Experience

Under current § 61.131, an applicant for a commercial pilot certificate with a rotorcraft category rating must have at least 150 hours of flight time, including at least 100 hours in powered aircraft, 50 hours of which must have been in a helicopter.

Under the proposed revision to this section, the applicant may obtain 35 hours of credit toward total flight time requirement in a flight simulator or flight training device, or a credit of up to 50 hours of the total required flight time in a flight simulator or flight training device if the flight simulator time or flight training device time is obtained from a training center certificated part 142. Previously, there was no provision for crediting flight simulation time toward this rating. Under the proposed rule, to be credited toward the total 150-hour flight time requirement, flight simulator or flight training device instruction received would have to be accomplished in a flight simulator or flight training device representing a rotorcraft.

A provision to allow a further reduction of the 150-hour flight time requirement, based on demonstrated ability to accomplish training requirements in less time, was also proposed.

AMR commented that the ratio of dual time to solo time is out of balance, and that each of those categories of aeronautical experience should be adjusted.

The ratio of dual to solo aeronautical experience is not appropriate to consider in this rule, which is aimed at increased use of simulation. The NPRM did not propose any changes to either solo or dual flight time requirements.

With minor typographical changes, this section is adopted as proposed.

§ 61.155 Airplane Rating: Aeronautical Experience

The FAA proposed to amend this section to allow more credit for the use of simulation toward the total required aeronautical experience requirement for an airplane rating on an ATP certificate.

Under existing § 61.155(b)(2), an applicant for an ATP certificate with an airplane rating must have had at least 1,500 hours of flight time as a pilot, including, among other things, at least 75 hours of actual or simulated instrument time, at least 50 hours of which were in actual flight. Up to 25 hours could have been obtained in a simulator.

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AMR, in a comment identical to several others, commented that the terms of proposed § 61.129(b)(1)(ii) should be made applicable to training under part 121, part 135, part 141, or SFAR 58.

For reasons discussed in the analysis of comments to § 61.65, additional flight time may be performed in a simulator and credited toward total flight time, only if the simulated flight time is accomplished in accordance with a training program approved under part 142, part 121, or part 135.

NATA commented that this section should be left unchanged.

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In fact, the proposed rule would not affect the current requirement pertaining to cross country flights, and it proposed that a maximum of 100 hours of the total of 190 hours of aeronautical experience may be accomplished in a flight simulator under part 142. The justification for permitting up to 100 hours of training to be accomplished in a flight simulator may be found in the discussion of comments to § 61.65 and in the section of this document entitled “Discussion of the Amendments and the New Rule.”

The FAA has decided to omit the words “Approved commercial pilot training program conducted under part 142” from the title of paragraph (c). Paragraphs within a section do not normally have titles. With this change, this section is adopted as proposed.

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Under current § 61.131, an applicant for a commercial pilot certificate with a rotorcraft category rating must have at least 150 hours of flight time, including at least 100 hours in powered aircraft, 50 hours of which must have been in a helicopter.

Under the proposed revision to this section, the applicant may obtain 35 hours of credit toward total flight time requirement in a flight simulator or flight training device, or a credit of up to 50 hours of the total required flight time in a flight simulator or flight training device if the flight simulator time or flight training device time is obtained from a training center certificated part 142. Previously, there was no provision for crediting flight simulation time toward this rating. Under the proposed rule, to be credited toward the total 150-hour flight time requirement, flight simulator or flight training device instruction received would have to be accomplished in a flight simulator or flight training device representing a rotorcraft.

A provision to allow a further reduction of the 150-hour flight time requirement, based on demonstrated ability to accomplish training requirements in less time, was also proposed.

AMR commented that the ratio of dual time to solo time is out of balance, and that each of those categories of aeronautical experience should be adjusted.

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Proposed paragraph (b) continued the existing limitation that an ATP could not instruct in an aircraft for more than 8 hours in any 24-consecutive-hour period, nor for more than 36 hours in any 7 consecutive days.

Continental Airlines, FSI, and others commented that proposed paragraph (b) should specify that the instruction time limitations apply to aircraft only. These commenters specifically remarked that, with a briefing and debriefing session that each last for 2 hours, a simulator instructor's duty day may exceed 8 hours. FSI made the same comment in reference to §§ 142.49 and 142.87, and this proposed section.

Proposed paragraph (b) did not include simulation in the instructor's time limitation and simulator instruction would not have been permitted by the proposal. However, because the FAA has modified the proposal to allow simulator instruction, the FAA believes that duty time limitations should apply to both simulation and aircraft.

Further, flight instruction time limitations regarding preflight and post flight activities or briefings and debriefings have never been addressed. The FAA has determined that, in this final rule, it is appropriate to clarify that time spent performing these activities does not count toward the proposed flight instruction time limitations. Therefore, the words "excluding briefings and debriefings" have been added to paragraph (b) of this section in the final rule.

AMR commented that, by proposing time limitations, the FAA is mandating work rules, and that the FAA does not provide any justification for the arbitrary limitations imposed.

The proposed time limitations are not new; they have been contained in current § 61.169 for many years. The clarification to paragraph (b) discussed above should remove any confusion about not establishing new instructor duty times for simulation instruction.

SFI commented that this rule is archaic and attaches a privilege (instructing) to a certificate that demands neither training nor a demonstration of skill as an instructor. It continues that the rules applicable to instruction in air transportation service should be contained in part 61 and that specialized requirements for air transportation instructors should be contained in §§ 121.411 and 135.337, as appropriate.

In addition to holding an ATP certificate, persons who instruct in air transportation service in part 121 and part 135 must train, and in implementing guidance requirements as an instructor and demonstrate skill as an instructor, for the specialized application of air transportation service. The FAA is convinced that these requirements assure a level of safety for instruction equivalent to provisions of part 61, for privileges limited to air transportation service.

This section is adopted with the changes discussed above.

§ 61.187 Flight Proficiency

As proposed, this section would permit an applicant for the flight instructor certificate to receive the required instruction for a flight instructor certificate in a flight simulator or flight training device used as part of an approved course conducted by a training center certificated under part 142. Previously, there was no provision for accomplishing the required instruction in anything other than an aircraft.

An overwhelming number of comments favored expansion of simulation to authorize its use for part or all of the instruction that flight instructor applicants are required to receive. Commenters objected, however, to the apparent requirement that all instruction must be received in an approved part 142 training center course. Several commenters, responding to the NPRM, suggested that the instruction permitted by this section be permitted for air carriers, part 141 schools, and holders of AQP or other authorizations.

The FAA does not agree. This option has been considered in detail in previous discussion of comments on §§ 61.56, 61.57, and 61.155.

Jeppesen-Sanderson, and other organizations representing part 141 and part 61 pilot schools commented, also in response to the NPRM, that a flight simulator could not do all the tasks in which a flight instructor must demonstrate competence.

The FAA agrees that this comment is true. The reason for extending the permitted uses for simulation to training and testing for the flight instructor certificate, even though simulation will not currently perform all the requisite tasks for that training and testing, is the same as discussed in the section-by-section discussion of § 61.56, regarding future use of simulators.

A wording error in NPRM Notice 92-10 resulted in the proposed rule text saying that an applicant for a flight instructor certificate **must** have received instruction in accordance with an approved course at a training center certificated under part 142; the intention was to say an applicant **may** receive instruction in such a course. Therefore, the FAA announced in an SNPRM (FR 58 9514, February 19, 1993) that

Proposed paragraph (b) continued the existing limitation that an ATP could not instruct in an aircraft for more than 8 hours in any 24-consecutive-hour period, nor for more than 36 hours in any 7 consecutive days.

Continental Airlines, FSI, and others commented that proposed paragraph (b) should specify that the instruction time limitations apply to aircraft only. These commenters specifically remarked that, with a briefing and debriefing session that each last for 2 hours, a simulator instructor's duty day may exceed 8 hours. FSI made the same comment in reference to §§ 142.49 and 142.87, and this proposed section.

Proposed paragraph (b) did not include simulation in the instructor's time limitation and simulator instruction would not have been permitted by the proposal. However, because the FAA has modified the proposal to allow simulator instruction, the FAA believes that duty time limitations should apply to both simulation and aircraft.

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AMR commented that, by proposing time limitations, the FAA is mandating work rules, and that the FAA does not provide any justification for the arbitrary limitations imposed.

The proposed time limitations are not new; they have been contained in current § 61.169 for many years. The clarification to paragraph (b) discussed above should remove any confusion about not establishing new instructor duty times for simulation instruction.

SFI commented that this rule is archaic and attaches a privilege (instructing) to a certificate that demands neither training nor a demonstration of skill as an instructor. It continues that the rules applicable to instruction in air transportation service should be contained in part 61 and that specialized requirements for air transportation instructors should be contained in §§ 121.411 and 135.337, as appropriate.

In addition to holding an ATP certificate, persons who instruct in air transportation service in part 121 and part 135 must train, and in implementing guidance requirements as an instructor and demonstrate skill as an instructor, for the specialized application of air transportation service. The FAA is convinced that these requirements assure a level of safety for instruction equivalent to provisions of part 61, for privileges limited to air transportation service.

This section is adopted with the changes discussed above.

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The FAA does not agree. This option has been considered in detail in previous discussion of comments on §§ 61.56, 61.57, and 61.155.

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The FAA agrees that this comment is true. The reason for extending the permitted uses for simulation to training and testing for the flight instructor certificate, even though simulation will not currently perform all the requisite tasks for that training and testing, is the same as discussed in the section-by-section discussion of § 61.56, regarding future use of simulators.

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This section is adopted with the changes discussed above.

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As proposed, this section would permit an applicant for the flight instructor certificate to receive the required instruction for a flight instructor certificate in a flight simulator or flight training device used as part of an approved course conducted by a training center certificated under part 142. Previously, there was no provision for accomplishing the required instruction in anything other than an aircraft.

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Continental Airlines, FSI, and others commented that proposed paragraph (b) should specify that the instruction time limitations apply to aircraft only. These commenters specifically remarked that, with a briefing and debriefing session that each last for 2 hours, a simulator instructor's duty day may exceed 8 hours. FSI made the same comment in reference to §§ 142.49 and 142.87, and this proposed section.

Proposed paragraph (b) did not include simulation in the instructor's time limitation and simulator instruction would not have been permitted by the proposal. However, because the FAA has modified the proposal to allow simulator instruction, the FAA believes that duty time limitations should apply to both simulation and aircraft.

Further, flight instruction time limitations regarding preflight and post flight activities or briefings and debriefings have never been addressed. The FAA has determined that, in this final rule, it is appropriate to clarify that time spent performing these activities does not count toward the proposed flight instruction time limitations. Therefore, the words "excluding briefings and debriefings" have been added to paragraph (b) of this section in the final rule.

AMR commented that, by proposing time limitations, the FAA is mandating work rules, and that the FAA does not provide any justification for the arbitrary limitations imposed.

The proposed time limitations are not new; they have been contained in current § 61.169 for many years. The clarification to paragraph (b) discussed above should remove any confusion about not establishing new instructor duty times for simulation instruction.

SFI commented that this rule is archaic and attaches a privilege (instructing) to a certificate that demands neither training nor a demonstration of skill as an instructor. It continues that the rules applicable to instruction in air transportation service should be contained in part 61 and that specialized requirements for air transportation instructors should be contained in §§ 121.411 and 135.337, as appropriate.

In addition to holding an ATP certificate, persons who instruct in air transportation service in part 121 and part 135 must train, and in implementing guidance requirements as an instructor and demonstrate skill as an instructor, for the specialized application of air transportation service. The FAA is convinced that these requirements assure a level of safety for instruction equivalent to provisions of part 61, for privileges limited to air transportation service.

This section is adopted with the changes discussed above.

§ 61.187 Flight Proficiency

As proposed, this section would permit an applicant for the flight instructor certificate to receive the required instruction for a flight instructor certificate in a flight simulator or flight training device used as part of an approved course conducted by a training center certificated under part 142. Previously, there was no provision for accomplishing the required instruction in anything other than an aircraft.

An overwhelming number of comments favored expansion of simulation to authorize its use for part or all of the instruction that flight instructor applicants are required to receive. Commenters objected, however, to the apparent requirement that all instruction must be received in an approved part 142 training center course. Several commenters, responding to the NPRM, suggested that the instruction permitted by this section be permitted for air carriers, part 141 schools, and holders of AQP or other authorizations.

The FAA does not agree. This option has been considered in detail in previous discussion of comments on §§ 61.56, 61.57, and 61.155.

Jeppesen-Sanderson, and other organizations representing part 141 and part 61 pilot schools commented, also in response to the NPRM, that a flight simulator could not do all the tasks in which a flight instructor must demonstrate competence.

The FAA agrees that this comment is true. The reason for extending the permitted uses for simulation to training and testing for the flight instructor certificate, even though simulation will not currently perform all the requisite tasks for that training and testing, is the same as discussed in the section-by-section discussion of § 61.56, regarding future use of simulators.

A wording error in NPRM Notice 92-10 resulted in the proposed rule text saying that an applicant for a flight instructor certificate **must** have received instruction in accordance with an approved course at a training center certificated under part 142; the intention was to say an applicant **may** receive instruction in such a course. Therefore, the FAA announced in an SNPRM (FR 58 9514, February 19, 1993) that

As discussed below, the following sections, §§ 121.400, 121.402, and 121.431, are retained for this final rule.

Subpart N-Training Program

§ 121.400 Applicability and Terms Used

Upon reconsideration of the ability of air carriers to train **aircrews** of other air carriers, the FAA has withdrawn most of this proposed section. However, the FAA will retain the definition of “training center” as proposed but will modify it to conform to the definition used under § 142.3 as adopted.

In addition, the FAA received a suggestion to add the term “requalification training” to the companion section in part 135 (§ 135.321). That term is already in common usage and is defined along with the terms defined in this section in FAA Order 8400.10, “The Air Transportation Operations Inspector’s Handbook.” Because requalification training is and will be accomplished in whole or in part by simulation, the FAA agrees that it should be defined in §§ 135.321 and 121.400. Accordingly, a definition of requalification training is added as paragraph (b)(7) of this section. The FAA further determined that it would be preferable to place the proposed definitions of “facility” and “courseware” only in part 142. Therefore, these definitions are deleted from this section.

§ 121.402 Training Program: Special Rules

The FAA proposed in this section that a part 121 certificate holder may provide training, testing, and checking services to others by contract. To provide training, testing, and checking for another part 121 certificate holder, the certificate holder would have been required to also hold a part 142 certificate and appropriate training specifications issued under part 142.

Several **commenters** said that the section is entirely a description of functions under part 142 and that it duplicates language in part 142.

The FAA agrees with the **commenters** that the description of functions proposed in this section duplicates a description of functions covered in part 142. Therefore, the FAA has revised this section in order to eliminate the duplication and to expressly allow part 121 certificate holders to use part 142 training centers to meet all or part of its training requirements if the **POI** approves that training.

NATCO stated that if each instructor, check airman, and evaluator can be shown to be qualified to fulfill the responsibilities, then a prerequisite for 1 year of employment should have no bearing on that person’s effectiveness.

The FAA agrees. As mentioned in the section entitled “Related Activity” there is a separate rulemaking action underway, a final rule, to amend appendix H of part 121 accordingly.

After **re-examination** following analysis of comments, the FAA revised proposed § 121.402(a) to provide that a part 121 certificate holder may continue to provide training, testing, and checking to another part 121 certificate holder provided the training meets the requirements of part 121 and the **POI** of that receiving certificate holder approves that training.

The FAA further revised this section to indicate that the only entity, other than another part 121 certificate holder, that may provide training to a part 121 certificate holder is a training center certificated under part 142 of this chapter. This revision will ensure standardization and increase safety through the use of state-of-the-art training media that are inherent in training centers.

This section is adopted with the changes discussed.

Subpart O—Crewmember Qualifications

§ 121.431 Applicability

The FAA proposed to amend this section to permit training centers to provide testing and checking services by contract or otherwise to persons subject to the requirements of part 121.

Several similar comments were received which stated that the section would preclude part 121 certificate holders from providing training to other persons without being certified under part 142.

The FAA agrees that the **commenters’** analysis is true to the extent that a part 142 certificate will be required for training, testing, and checking offered to persons other than aircrew employees of another part 121 certificate holder.

As discussed below, the following sections, §§ 121.400, 121.402, and 121.431, are retained for this final rule.

Subpart N-Training Program

§ 121.400 Applicability and Terms Used

Upon reconsideration of the ability of air carriers to train **aircrews** of other air carriers, the FAA has withdrawn most of this proposed section. However, the FAA will retain the definition of “training center” as proposed but will modify it to conform to the definition used under § 142.3 as adopted.

In addition, the FAA received a suggestion to add the term “requalification training” to the companion section in part 135 (§ 135.321). That term is already in common usage and is defined along with the terms defined in this section in FAA Order 8400.10, “The Air Transportation Operations Inspector’s Handbook.” Because requalification training is and will be accomplished in whole or in part by simulation, the FAA agrees that it should be defined in §§ 135.321 and 121.400. Accordingly, a definition of requalification training is added as paragraph (b)(7) of this section. The FAA further determined that it would be preferable to place the proposed definitions of “facility” and “courseware” only in part 142. Therefore, these definitions are deleted from this section.

§ 121.402 Training Program: Special Rules

The FAA proposed in this section that a part 121 certificate holder may provide training, testing, and checking services to others by contract. To provide training, testing, and checking for another part 121 certificate holder, the certificate holder would have been required to also hold a part 142 certificate and appropriate training specifications issued under part 142.

Several **commenters** said that the section is entirely a description of functions under part 142 and that it duplicates language in part 142.

The FAA agrees with the **commenters** that the description of functions proposed in this section duplicates a description of functions covered in part 142. Therefore, the FAA has revised this section in order to eliminate the duplication and to expressly allow part 121 certificate holders to use part 142 training centers to meet all or part of its training requirements if the **POI** approves that training.

NATCO stated that if each instructor, check airman, and evaluator can be shown to be qualified to fulfill the responsibilities, then a prerequisite for 1 year of employment should have no bearing on that person’s effectiveness.

The FAA agrees. As mentioned in the section entitled “Related Activity” there is a separate rulemaking action underway, a final rule, to amend appendix H of part 121 accordingly.

After **re-examination** following analysis of comments, the FAA revised proposed § 121.402(a) to provide that a part 121 certificate holder may continue to provide training, testing, and checking to another part 121 certificate holder provided the training meets the requirements of part 121 and the **POI** of that receiving certificate holder approves that training.

The FAA further revised this section to indicate that the only entity, other than another part 121 certificate holder, that may provide training to a part 121 certificate holder is a training center certificated under part 142 of this chapter. This revision will ensure standardization and increase safety through the use of state-of-the-art training media that are inherent in training centers.

This section is adopted with the changes discussed.

Subpart O—Crewmember Qualifications

§ 121.431 Applicability

The FAA proposed to amend this section to permit training centers to provide testing and checking services by contract or otherwise to persons subject to the requirements of part 121.

Several similar comments were received which stated that the section would preclude part 121 certificate holders from providing training to other persons without being certified under part 142.

The FAA agrees that the **commenters’** analysis is true to the extent that a part 142 certificate will be required for training, testing, and checking offered to persons other than aircrew employees of another part 121 certificate holder.

As discussed below, the following sections, §§ 121.400, 121.402, and 121.431, are retained for this final rule.

Subpart N-Training Program

§ 121.400 Applicability and Terms Used

Upon reconsideration of the ability of air carriers to train **aircrews** of other air carriers, the FAA has withdrawn most of this proposed section. However, the FAA will retain the definition of “training center” as proposed but will modify it to conform to the definition used under § 142.3 as adopted.

In addition, the FAA received a suggestion to add the term “requalification training” to the companion section in part 135 (§ 135.321). That term is already in common usage and is defined along with the terms defined in this section in FAA Order 8400.10, “The Air Transportation Operations Inspector’s Handbook.” Because requalification training is and will be accomplished in whole or in part by simulation, the FAA agrees that it should be defined in §§ 135.321 and 121.400. Accordingly, a definition of requalification training is added as paragraph (b)(7) of this section. The FAA further determined that it would be preferable to place the proposed definitions of “facility” and “courseware” only in part 142. Therefore, these definitions are deleted from this section.

§ 121.402 Training Program: Special Rules

The FAA proposed in this section that a part 121 certificate holder may provide training, testing, and checking services to others by contract. To provide training, testing, and checking for another part 121 certificate holder, the certificate holder would have been required to also hold a part 142 certificate and appropriate training specifications issued under part 142.

Several **commenters** said that the section is entirely a description of functions under part 142 and that it duplicates language in part 142.

The FAA agrees with the **commenters** that the description of functions proposed in this section duplicates a description of functions covered in part 142. Therefore, the FAA has revised this section in order to eliminate the duplication and to expressly allow part 121 certificate holders to use part 142 training centers to meet all or part of its training requirements if the **POI** approves that training.

NATCO stated that if each instructor, check airman, and evaluator can be shown to be qualified to fulfill the responsibilities, then a prerequisite for 1 year of employment should have no bearing on that person’s effectiveness.

The FAA agrees. As mentioned in the section entitled “Related Activity” there is a separate rulemaking action underway, a final rule, to amend appendix H of part 121 accordingly.

After **re-examination** following analysis of comments, the FAA revised proposed § 121.402(a) to provide that a part 121 certificate holder may continue to provide training, testing, and checking to another part 121 certificate holder provided the training meets the requirements of part 121 and the **POI** of that receiving certificate holder approves that training.

The FAA further revised this section to indicate that the only entity, other than another part 121 certificate holder, that may provide training to a part 121 certificate holder is a training center certificated under part 142 of this chapter. This revision will ensure standardization and increase safety through the use of state-of-the-art training media that are inherent in training centers.

This section is adopted with the changes discussed.

Subpart O—Crewmember Qualifications

§ 121.431 Applicability

The FAA proposed to amend this section to permit training centers to provide testing and checking services by contract or otherwise to persons subject to the requirements of part 121.

Several similar comments were received which stated that the section would preclude part 121 certificate holders from providing training to other persons without being certified under part 142.

The FAA agrees that the **commenters’** analysis is true to the extent that a part 142 certificate will be required for training, testing, and checking offered to persons other than aircrew employees of another part 121 certificate holder.

Part 141

§ 141.26 Training Agreements

No comments were received concerning this section, and it is adopted as proposed.

Broward Community College, Northwest Accelerated Ground School, and an individual made general comments that pilot schools will be placed at a disadvantage, apparently from not being able to take advantage of the capabilities of flight simulators.

The FAA's response to these comments may be found by reference to the discussion under §§ 61.65 and 61.109.

Part 142

As discussed above under parts 121 and 135, the FAA received numerous comments that a part 142 certificate should not be required for a part 121 or part 135 certificate holder to continue to provide training to other than its own employees.

After a review of comments received, the FAA has determined that part 121 and part 135 are adequate for air carrier training programs and the qualification and training of persons who present those training programs. For this reason, proposed subparts F, G, H, and I of part 142 that govern air carrier training, testing, or checking have been withdrawn.

As explained in the discussion of parts 121 and 135 above, however, the FAA has determined that a part 121 or part 135 certificate holder, without obtaining a part 142 certificate, should not be allowed to provide training, testing, or checking to persons who are not aircrew employees of an air carrier certificated under the same part.

A number of **commenters** also noted that the provisions regarding drug testing appear to be duplicative of requirements adopted since the publication of the **NPRM**, primarily in FAA's anti-drug rule, part 121, appendix I. The FAA concurs with these **commenters**.

Under part 121, appendix I, individuals who provide flight instruction, including simulator training, either directly or by contract for specified aviation employers, must be subject to an FAA-approved anti-drug program that includes all elements of proposed §§ 142.21, 142.23, and 142.25. Similarly, these individuals must be subject to an alcohol misuse prevention program, including alcohol testing, under regulations published in 1994, found primarily at part 121, appendix J. The FAA has determined that these regulations adequately cover those individuals performing safety-sensitive functions. Therefore, proposed §§ 142.21, 142.23, and 142.25, and as discussed above part 121, appendix I, have not been adopted.

The FAA proposed § 142.11 entitled "Training center ratings." This proposed section would have required that, in addition to a training center certificate, a training center certificate holder would have had to obtain a rating to conduct each curriculum. The FAA has determined that ratings will not be necessary, since the subject matter that would have been addressed by ratings will be covered by training specifications. Accordingly, this proposed section has not been adopted as "Training center ratings." It has been adopted as "Application for issuance or amendment."

The FAA also proposed § 142.51, entitled "Qualifications to instruct in a flight simulator or a flight training device." Because the FAA simplified and consolidated instructor eligibility requirements into § 142.47 as adopted, § 142.51 is no longer needed and has not been adopted.

Lastly, in this final rule, all references to "training center **certificate** holder" have been replaced with "certificate holder" because the meaning is clear within the context of part 142.

Subpart A-General

This general subpart, subpart A, contains the requirements necessary to obtain and maintain certification as a part 142 training center.

§ 142.1 Applicability

This section, as proposed, specified the entities that would have to be certificated under part 142 to provide training, testing, and checking of flight crewmembers.

Boeing commented that the **FAA** should permit training centers operating under exemption and other means to be granted a "grandfather" certificate immediately. Other **commenters** were of the same opinion.

The FAA has allowed a 2-year period in order to accommodate applications for certification. Different training entities in operation now are structured to meet different regulatory standards. The time allowed

Part 141

§ 141.26 Training Agreements

No comments were received concerning this section, and it is adopted as proposed.

Broward Community College, Northwest Accelerated Ground School, and an individual made general comments that pilot schools will be placed at a disadvantage, apparently from not being able to take advantage of the capabilities of flight simulators.

The FAA's response to these comments may be found by reference to the discussion under §§ 61.65 and 61.109.

Part 142

As discussed above under parts 121 and 135, the FAA received numerous comments that a part 142 certificate should not be required for a part 121 or part 135 certificate holder to continue to provide training to other than its own employees.

After a review of comments received, the FAA has determined that part 121 and part 135 are adequate for air carrier training programs and the qualification and training of persons who present those training programs. For this reason, proposed subparts F, G, H, and I of part 142 that govern air carrier training, testing, or checking have been withdrawn.

As explained in the discussion of parts 121 and 135 above, however, the FAA has determined that a part 121 or part 135 certificate holder, without obtaining a part 142 certificate, should not be allowed to provide training, testing, or checking to persons who are not aircrew employees of an air carrier certificated under the same part.

A number of **commenters** also noted that the provisions regarding drug testing appear to be duplicative of requirements adopted since the publication of the **NPRM**, primarily in FAA's anti-drug rule, part 121, appendix I. The FAA concurs with these **commenters**.

Under part 121, appendix I, individuals who provide flight instruction, including simulator training, either directly or by contract for specified aviation employers, must be subject to an FAA-approved anti-drug program that includes all elements of proposed §§ 142.21, 142.23, and 142.25. Similarly, these individuals must be subject to an alcohol misuse prevention program, including alcohol testing, under regulations published in 1994, found primarily at part 121, appendix J. The FAA has determined that these regulations adequately cover those individuals performing safety-sensitive functions. Therefore, proposed §§ 142.21, 142.23, and 142.25, and as discussed above part 121, appendix I, have not been adopted.

The FAA proposed § 142.11 entitled "Training center ratings." This proposed section would have required that, in addition to a training center certificate, a training center certificate holder would have had to obtain a rating to conduct each curriculum. The FAA has determined that ratings will not be necessary, since the subject matter that would have been addressed by ratings will be covered by training specifications. Accordingly, this proposed section has not been adopted as "Training center ratings." It has been adopted as "Application for issuance or amendment."

The FAA also proposed § 142.51, entitled "Qualifications to instruct in a flight simulator or a flight training device." Because the FAA simplified and consolidated instructor eligibility requirements into § 142.47 as adopted, § 142.51 is no longer needed and has not been adopted.

Lastly, in this final rule, all references to "training center **certificate** holder" have been replaced with "certificate holder" because the meaning is clear within the context of part 142.

Subpart A-General

This general subpart, subpart A, contains the requirements necessary to obtain and maintain certification as a part 142 training center.

§ 142.1 Applicability

This section, as proposed, specified the entities that would have to be certificated under part 142 to provide training, testing, and checking of flight crewmembers.

Boeing commented that the **FAA** should permit training centers operating under exemption and other means to be granted a "grandfather" certificate immediately. Other **commenters** were of the same opinion.

The FAA has allowed a 2-year period in order to accommodate applications for certification. Different training entities in operation now are structured to meet different regulatory standards. The time allowed

Part 141

§ 141.26 Training Agreements

No comments were received concerning this section, and it is adopted as proposed.

Broward Community College, Northwest Accelerated Ground School, and an individual made general comments that pilot schools will be placed at a disadvantage, apparently from not being able to take advantage of the capabilities of flight simulators.

The FAA's response to these comments may be found by reference to the discussion under §§ 61.65 and 61.109.

Part 142

As discussed above under parts 121 and 135, the FAA received numerous comments that a part 142 certificate should not be required for a part 121 or part 135 certificate holder to continue to provide training to other than its own employees.

After a review of comments received, the FAA has determined that part 121 and part 135 are adequate for air carrier training programs and the qualification and training of persons who present those training programs. For this reason, proposed subparts F, G, H, and I of part 142 that govern air carrier training, testing, or checking have been withdrawn.

As explained in the discussion of parts 121 and 135 above, however, the FAA has determined that a part 121 or part 135 certificate holder, without obtaining a part 142 certificate, should not be allowed to provide training, testing, or checking to persons who are not aircrew employees of an air carrier certificated under the same part.

A number of **commenters** also noted that the provisions regarding drug testing appear to be duplicative of requirements adopted since the publication of the **NPRM**, primarily in FAA's anti-drug rule, part 121, appendix I. The FAA concurs with these **commenters**.

Under part 121, appendix I, individuals who provide flight instruction, including simulator training, either directly or by contract for specified aviation employers, must be subject to an FAA-approved anti-drug program that includes all elements of proposed §§ 142.21, 142.23, and 142.25. Similarly, these individuals must be subject to an alcohol misuse prevention program, including alcohol testing, under regulations published in 1994, found primarily at part 121, appendix J. The FAA has determined that these regulations adequately cover those individuals performing safety-sensitive functions. Therefore, proposed §§ 142.21, 142.23, and 142.25, and as discussed above part 121, appendix I, have not been adopted.

The FAA proposed § 142.11 entitled "Training center ratings." This proposed section would have required that, in addition to a training center certificate, a training center certificate holder would have had to obtain a rating to conduct each curriculum. The FAA has determined that ratings will not be necessary, since the subject matter that would have been addressed by ratings will be covered by training specifications. Accordingly, this proposed section has not been adopted as "Training center ratings." It has been adopted as "Application for issuance or amendment."

The FAA also proposed § 142.51, entitled "Qualifications to instruct in a flight simulator or a flight training device." Because the FAA simplified and consolidated instructor eligibility requirements into § 142.47 as adopted, § 142.51 is no longer needed and has not been adopted.

Lastly, in this final rule, all references to "training center **certificate** holder" have been replaced with "certificate holder" because the meaning is clear within the context of part 142.

Subpart A-General

This general subpart, subpart A, contains the requirements necessary to obtain and maintain certification as a part 142 training center.

§ 142.1 Applicability

This section, as proposed, specified the entities that would have to be certificated under part 142 to provide training, testing, and checking of flight crewmembers.

Boeing commented that the **FAA** should permit training centers operating under exemption and other means to be granted a "grandfather" certificate immediately. Other **commenters** were of the same opinion.

The FAA has allowed a 2-year period in order to accommodate applications for certification. Different training entities in operation now are structured to meet different regulatory standards. The time allowed

Part 141

§ 141.26 Training Agreements

No comments were received concerning this section, and it is adopted as proposed.

Broward Community College, Northwest Accelerated Ground School, and an individual made general comments that pilot schools will be placed at a disadvantage, apparently from not being able to take advantage of the capabilities of flight simulators.

The FAA's response to these comments may be found by reference to the discussion under §§ 61.65 and 61.109.

Part 142

As discussed above under parts 121 and 135, the FAA received numerous comments that a part 142 certificate should not be required for a part 121 or part 135 certificate holder to continue to provide training to other than its own employees.

After a review of comments received, the FAA has determined that part 121 and part 135 are adequate for air carrier training programs and the qualification and training of persons who present those training programs. For this reason, proposed subparts F, G, H, and I of part 142 that govern air carrier training, testing, or checking have been withdrawn.

As explained in the discussion of parts 121 and 135 above, however, the FAA has determined that a part 121 or part 135 certificate holder, without obtaining a part 142 certificate, should not be allowed to provide training, testing, or checking to persons who are not aircrew employees of an air carrier certificated under the same part.

A number of **commenters** also noted that the provisions regarding drug testing appear to be duplicative of requirements adopted since the publication of the **NPRM**, primarily in FAA's anti-drug rule, part 121, appendix I. The FAA concurs with these **commenters**.

Under part 121, appendix I, individuals who provide flight instruction, including simulator training, either directly or by contract for specified aviation employers, must be subject to an FAA-approved anti-drug program that includes all elements of proposed §§ 142.21, 142.23, and 142.25. Similarly, these individuals must be subject to an alcohol misuse prevention program, including alcohol testing, under regulations published in 1994, found primarily at part 121, appendix J. The FAA has determined that these regulations adequately cover those individuals performing safety-sensitive functions. Therefore, proposed §§ 142.21, 142.23, and 142.25, and as discussed above part 121, appendix I, have not been adopted.

The FAA proposed § 142.11 entitled "Training center ratings." This proposed section would have required that, in addition to a training center certificate, a training center certificate holder would have had to obtain a rating to conduct each curriculum. The FAA has determined that ratings will not be necessary, since the subject matter that would have been addressed by ratings will be covered by training specifications. Accordingly, this proposed section has not been adopted as "Training center ratings." It has been adopted as "Application for issuance or amendment."

The FAA also proposed § 142.51, entitled "Qualifications to instruct in a flight simulator or a flight training device." Because the FAA simplified and consolidated instructor eligibility requirements into § 142.47 as adopted, § 142.51 is no longer needed and has not been adopted.

Lastly, in this final rule, all references to "training center **certificate** holder" have been replaced with "certificate holder" because the meaning is clear within the context of part 142.

Subpart A-General

This general subpart, subpart A, contains the requirements necessary to obtain and maintain certification as a part 142 training center.

§ 142.1 Applicability

This section, as proposed, specified the entities that would have to be certificated under part 142 to provide training, testing, and checking of flight crewmembers.

Boeing commented that the **FAA** should permit training centers operating under exemption and other means to be granted a "grandfather" certificate immediately. Other **commenters** were of the same opinion.

The FAA has allowed a 2-year period in order to accommodate applications for certification. Different training entities in operation now are structured to meet different regulatory standards. The time allowed

Part 141

§ 141.26 Training Agreements

No comments were received concerning this section, and it is adopted as proposed.

Broward Community College, Northwest Accelerated Ground School, and an individual made general comments that pilot schools will be placed at a disadvantage, apparently from not being able to take advantage of the capabilities of flight simulators.

The FAA's response to these comments may be found by reference to the discussion under §§ 61.65 and 61.109.

Part 142

As discussed above under parts 121 and 135, the FAA received numerous comments that a part 142 certificate should not be required for a part 121 or part 135 certificate holder to continue to provide training to other than its own employees.

After a review of comments received, the FAA has determined that part 121 and part 135 are adequate for air carrier training programs and the qualification and training of persons who present those training programs. For this reason, proposed subparts F, G, H, and I of part 142 that govern air carrier training, testing, or checking have been withdrawn.

As explained in the discussion of parts 121 and 135 above, however, the FAA has determined that a part 121 or part 135 certificate holder, without obtaining a part 142 certificate, should not be allowed to provide training, testing, or checking to persons who are not aircrew employees of an air carrier certificated under the same part.

A number of **commenters** also noted that the provisions regarding drug testing appear to be duplicative of requirements adopted since the publication of the **NPRM**, primarily in FAA's anti-drug rule, part 121, appendix I. The FAA concurs with these **commenters**.

Under part 121, appendix I, individuals who provide flight instruction, including simulator training, either directly or by contract for specified aviation employers, must be subject to an FAA-approved anti-drug program that includes all elements of proposed §§ 142.21, 142.23, and 142.25. Similarly, these individuals must be subject to an alcohol misuse prevention program, including alcohol testing, under regulations published in 1994, found primarily at part 121, appendix J. The FAA has determined that these regulations adequately cover those individuals performing safety-sensitive functions. Therefore, proposed §§ 142.21, 142.23, and 142.25, and as discussed above part 121, appendix I, have not been adopted.

The FAA proposed § 142.11 entitled "Training center ratings." This proposed section would have required that, in addition to a training center certificate, a training center certificate holder would have had to obtain a rating to conduct each curriculum. The FAA has determined that ratings will not be necessary, since the subject matter that would have been addressed by ratings will be covered by training specifications. Accordingly, this proposed section has not been adopted as "Training center ratings." It has been adopted as "Application for issuance or amendment."

The FAA also proposed § 142.51, entitled "Qualifications to instruct in a flight simulator or a flight training device." Because the FAA simplified and consolidated instructor eligibility requirements into § 142.47 as adopted, § 142.51 is no longer needed and has not been adopted.

Lastly, in this final rule, all references to "training center **certificate** holder" have been replaced with "certificate holder" because the meaning is clear within the context of part 142.

Subpart A-General

This general subpart, subpart A, contains the requirements necessary to obtain and maintain certification as a part 142 training center.

§ 142.1 Applicability

This section, as proposed, specified the entities that would have to be certificated under part 142 to provide training, testing, and checking of flight crewmembers.

Boeing commented that the **FAA** should permit training centers operating under exemption and other means to be granted a "grandfather" certificate immediately. Other **commenters** were of the same opinion.

The FAA has allowed a 2-year period in order to accommodate applications for certification. Different training entities in operation now are structured to meet different regulatory standards. The time allowed

(iv) For each flight simulator or flight training device, the make, model, and series of airplane or the set of airplanes being simulated and the qualification level assigned, or the make, model, and series of rotorcraft, or set of rotorcraft being simulated and the qualification level assigned;

(v) For each flight **simulator** and flight training device subject to qualification evaluation by the **National** Simulator Program Manager, the serial number assigned by the manufacturer;

(vi) The name and address of all satellite training centers, and the approved courses offered at each satellite training center;

(vii) Authorized deviations or waivers from this part; and

(viii) Any other items the Administrator may require or allow.

Several air carrier operators, commenting on proposed paragraph (d)(2), stated that training specifications would not be convenient, and that courses approved under parts 121, 135, or 142 would provide all the course specification that is required.

Based on prior experience, the FAA believes that many administrative matters not concerning course specification have been accommodated very well by the use of operations specifications for air carrier operators. This is a new concept for training entities, but experience with similar operating specifications issued to air carrier certificate holders has shown that the procedure will allow maximum administrative convenience. Especially in light of the removal of the proposed requirement for ratings for training centers, the FAA concludes that providing for training specifications is administratively wise. As stated previously in this preamble, a part 142 certificate (and attendant training specifications) will not be required for part 121 certificate holders to train other part 121 certificate holders or for part 135 certificate holders to train other part 135 certificate holders. Therefore, training specifications will be applicable to air carrier certificate holders only if those certificate holders choose to apply for a part 142 certificate.

For the reasons stated, § 142.13(d)(2) is adopted as proposed and renumbered as § 142.11(d)(2).

FSI commented that proposed paragraph (d)(2)(iii) would preclude short-notice change of aircraft and the use of customer-owned aircraft unless there is a 1-day change notification procedure. **Airbus** made similar comments about aircraft to be used by aircraft manufacturer training centers.

The FAA agrees that the proposal may be too restrictive on certain potential training centers, including aircraft manufacturer training centers, which might offer training in aircraft rather than in a flight simulator or flight training device. Therefore, proposed paragraph (d)(2)(iii) has been deleted. Proposed paragraphs (d)(2)(iv) through (d)(2)(viii) have been redesignated as (d)(2)(iii) through (d)(2)(vii).

Regarding proposed paragraph (d)(2)(vi), Boeing commented that the proposed requirement to list the name, address, and courses approved for each **satellite** training center would preclude “offload training.”

The FAA does not agree that these proposed requirements would preclude the training to which Boeing referred. The proposal does not prevent training at sites other than the training center location or satellite training center location, as long as a training center or satellite training center of the certificate holder complies with the certification requirements of part 142. Therefore paragraph (d)(2)(vi) is adopted as proposed; however, since proposed paragraph (d)(2)(iii) has been deleted, proposed paragraph (d)(2)(vi) is adopted as paragraph (d)(2)(v).

The FAA has decided that effective reference to and tracking of simulation equipment requires the use of FAA-assigned identification numbers for that equipment instead of serial numbers assigned by the manufacturer of such equipment. Accordingly, proposed paragraph (d)(2)(v) has been reworded to reflect this requirement and is adopted as paragraph (d)(2)(iv).

Paragraph (e) proposed the following:

(e) **The Administrator may deny, suspend, revoke, or terminate a certificate under this part if the Administrator finds that—**

(1) Any certificate the Administrator previously issued to the applicant for, or holder of, a training center certificate, was revoked, suspended, or terminated within the previous 5 years;

(2) An applicant for, or holder of, a training center certificate employs or proposes **to employ** a person **who—**

(i) Was previously employed in a management or supervisory position;

(ii) Exercised control over any certificate holder whose certificate has been revoked, suspended, or terminated within the last 5 years; and

(iv) For each flight simulator or flight training device, the make, model, and series of airplane or the set of airplanes being simulated and the qualification level assigned, or the make, model, and series of rotorcraft, or set of rotorcraft being simulated and the qualification level assigned;

(v) For each flight **simulator** and flight training device subject to qualification evaluation by the **National** Simulator Program Manager, the serial number assigned by the manufacturer;

(vi) The name and address of all satellite training centers, and the approved courses offered at each satellite training center;

(vii) Authorized deviations or waivers from this part; and

(viii) Any other items the Administrator may require or allow.

Several air carrier operators, commenting on proposed paragraph (d)(2), stated that training specifications would not be convenient, and that courses approved under parts 121, 135, or 142 would provide all the course specification that is required.

Based on prior experience, the FAA believes that many administrative matters not concerning course specification have been accommodated very well by the use of operations specifications for air carrier operators. This is a new concept for training entities, but experience with similar operating specifications issued to air carrier certificate holders has shown that the procedure will allow maximum administrative convenience. Especially in light of the removal of the proposed requirement for ratings for training centers, the FAA concludes that providing for training specifications is administratively wise. As stated previously in this preamble, a part 142 certificate (and attendant training specifications) will not be required for part 121 certificate holders to train other part 121 certificate holders or for part 135 certificate holders to train other part 135 certificate holders. Therefore, training specifications will be applicable to air carrier certificate holders only if those certificate holders choose to apply for a part 142 certificate.

For the reasons stated, § 142.13(d)(2) is adopted as proposed and renumbered as § 142.11(d)(2).

FSI commented that proposed paragraph (d)(2)(iii) would preclude short-notice change of aircraft and the use of customer-owned aircraft unless there is a 1-day change notification procedure. **Airbus** made similar comments about aircraft to be used by aircraft manufacturer training centers.

The FAA agrees that the proposal may be too restrictive on certain potential training centers, including aircraft manufacturer training centers, which might offer training in aircraft rather than in a flight simulator or flight training device. Therefore, proposed paragraph (d)(2)(iii) has been deleted. Proposed paragraphs (d)(2)(iv) through (d)(2)(viii) have been redesignated as (d)(2)(iii) through (d)(2)(vii).

Regarding proposed paragraph (d)(2)(vi), Boeing commented that the proposed requirement to list the name, address, and courses approved for each **satellite** training center would preclude “offload training.”

The FAA does not agree that these proposed requirements would preclude the training to which Boeing referred. The proposal does not prevent training at sites other than the training center location or satellite training center location, as long as a training center or satellite training center of the certificate holder complies with the certification requirements of part 142. Therefore paragraph (d)(2)(vi) is adopted as proposed; however, since proposed paragraph (d)(2)(iii) has been deleted, proposed paragraph (d)(2)(vi) is adopted as paragraph (d)(2)(v).

The FAA has decided that effective reference to and tracking of simulation equipment requires the use of FAA-assigned identification numbers for that equipment instead of serial numbers assigned by the manufacturer of such equipment. Accordingly, proposed paragraph (d)(2)(v) has been reworded to reflect this requirement and is adopted as paragraph (d)(2)(iv).

Paragraph (e) proposed the following:

(e) **The Administrator may deny, suspend, revoke, or terminate a certificate under this part if the Administrator finds that—**

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(2) An applicant for, or holder of, a training center certificate employs or proposes **to employ** a person **who—**

(i) Was previously employed in a management or supervisory position;

(ii) Exercised control over any certificate holder whose certificate has been revoked, suspended, or terminated within the last 5 years; and

(iv) For each flight simulator or flight training device, the make, model, and series of airplane or the set of airplanes being simulated and the qualification level assigned, or the make, model, and series of rotorcraft, or set of rotorcraft being simulated and the qualification level assigned;

(v) For each flight **simulator** and flight training device subject to qualification evaluation by the **National** Simulator Program Manager, the serial number assigned by the manufacturer;

(vi) The name and address of all satellite training centers, and the approved courses offered at each satellite training center;

(vii) Authorized deviations or waivers from this part; and

(viii) Any other items the Administrator may require or allow.

Several air carrier operators, commenting on proposed paragraph (d)(2), stated that training specifications would not be convenient, and that courses approved under parts 121, 135, or 142 would provide all the course specification that is required.

Based on prior experience, the FAA believes that many administrative matters not concerning course specification have been accommodated very well by the use of operations specifications for air carrier operators. This is a new concept for training entities, but experience with similar operating specifications issued to air carrier certificate holders has shown that the procedure will allow maximum administrative convenience. Especially in light of the removal of the proposed requirement for ratings for training centers, the FAA concludes that providing for training specifications is administratively wise. As stated previously in this preamble, a part 142 certificate (and attendant training specifications) will not be required for part 121 certificate holders to train other part 121 certificate holders or for part 135 certificate holders to train other part 135 certificate holders. Therefore, training specifications will be applicable to air carrier certificate holders only if those certificate holders choose to apply for a part 142 certificate.

For the reasons stated, § 142.13(d)(2) is adopted as proposed and renumbered as § 142.11(d)(2).

FSI commented that proposed paragraph (d)(2)(iii) would preclude short-notice change of aircraft and the use of customer-owned aircraft unless there is a 1-day change notification procedure. **Airbus** made similar comments about aircraft to be used by aircraft manufacturer training centers.

The FAA agrees that the proposal may be too restrictive on certain potential training centers, including aircraft manufacturer training centers, which might offer training in aircraft rather than in a flight simulator or flight training device. Therefore, proposed paragraph (d)(2)(iii) has been deleted. Proposed paragraphs (d)(2)(iv) through (d)(2)(viii) have been redesignated as (d)(2)(iii) through (d)(2)(vii).

Regarding proposed paragraph (d)(2)(vi), Boeing commented that the proposed requirement to list the name, address, and courses approved for each **satellite** training center would preclude “offload training.”

The FAA does not agree that these proposed requirements would preclude the training to which Boeing referred. The proposal does not prevent training at sites other than the training center location or satellite training center location, as long as a training center or satellite training center of the certificate holder complies with the certification requirements of part 142. Therefore paragraph (d)(2)(vi) is adopted as proposed; however, since proposed paragraph (d)(2)(iii) has been deleted, proposed paragraph (d)(2)(vi) is adopted as paragraph (d)(2)(v).

The FAA has decided that effective reference to and tracking of simulation equipment requires the use of FAA-assigned identification numbers for that equipment instead of serial numbers assigned by the manufacturer of such equipment. Accordingly, proposed paragraph (d)(2)(v) has been reworded to reflect this requirement and is adopted as paragraph (d)(2)(iv).

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(2) An applicant for, or holder of, a training center certificate employs or proposes **to employ** a person **who—**

(i) Was previously employed in a management or supervisory position;

(ii) Exercised control over any certificate holder whose certificate has been revoked, suspended, or terminated within the last 5 years; and

(iv) For each flight simulator or flight training device, the make, model, and series of airplane or the set of airplanes being simulated and the qualification level assigned, or the make, model, and series of rotorcraft, or set of rotorcraft being simulated and the qualification level assigned;

(v) For each flight **simulator** and flight training device subject to qualification evaluation by the **National** Simulator Program Manager, the serial number assigned by the manufacturer;

(vi) The name and address of all satellite training centers, and the approved courses offered at each satellite training center;

(vii) Authorized deviations or waivers from this part; and

(viii) Any other items the Administrator may require or allow.

Several air carrier operators, commenting on proposed paragraph (d)(2), stated that training specifications would not be convenient, and that courses approved under parts 121, 135, or 142 would provide all the course specification that is required.

Based on prior experience, the FAA believes that many administrative matters not concerning course specification have been accommodated very well by the use of operations specifications for air carrier operators. This is a new concept for training entities, but experience with similar operating specifications issued to air carrier certificate holders has shown that the procedure will allow maximum administrative convenience. Especially in light of the removal of the proposed requirement for ratings for training centers, the FAA concludes that providing for training specifications is administratively wise. As stated previously in this preamble, a part 142 certificate (and attendant training specifications) will not be required for part 121 certificate holders to train other part 121 certificate holders or for part 135 certificate holders to train other part 135 certificate holders. Therefore, training specifications will be applicable to air carrier certificate holders only if those certificate holders choose to apply for a part 142 certificate.

For the reasons stated, § 142.13(d)(2) is adopted as proposed and renumbered as § 142.11(d)(2).

FSI commented that proposed paragraph (d)(2)(iii) would preclude short-notice change of aircraft and the use of customer-owned aircraft unless there is a 1-day change notification procedure. **Airbus** made similar comments about aircraft to be used by aircraft manufacturer training centers.

The FAA agrees that the proposal may be too restrictive on certain potential training centers, including aircraft manufacturer training centers, which might offer training in aircraft rather than in a flight simulator or flight training device. Therefore, proposed paragraph (d)(2)(iii) has been deleted. Proposed paragraphs (d)(2)(iv) through (d)(2)(viii) have been redesignated as (d)(2)(iii) through (d)(2)(vii).

Regarding proposed paragraph (d)(2)(vi), Boeing commented that the proposed requirement to list the name, address, and courses approved for each **satellite** training center would preclude “offload training.”

The FAA does not agree that these proposed requirements would preclude the training to which Boeing referred. The proposal does not prevent training at sites other than the training center location or satellite training center location, as long as a training center or satellite training center of the certificate holder complies with the certification requirements of part 142. Therefore paragraph (d)(2)(vi) is adopted as proposed; however, since proposed paragraph (d)(2)(iii) has been deleted, proposed paragraph (d)(2)(vi) is adopted as paragraph (d)(2)(v).

The FAA has decided that effective reference to and tracking of simulation equipment requires the use of FAA-assigned identification numbers for that equipment instead of serial numbers assigned by the manufacturer of such equipment. Accordingly, proposed paragraph (d)(2)(v) has been reworded to reflect this requirement and is adopted as paragraph (d)(2)(iv).

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(i) Was previously employed in a management or supervisory position;

(ii) Exercised control over any certificate holder whose certificate has been revoked, suspended, or terminated within the last 5 years; and

AIA commented that this section seems to imply that all foreign training centers must be approved by the FAA.

As indicated above in response to **FSI's** comment regarding approval of the location of training centers, the FAA has amended proposed paragraph (a).

In paragraph (b), the FAA proposed that a training center or satellite training center located outside the United States may issue U.S. pilot certificates to U.S. citizens only but may add ratings, authorizations, and endorsements to all pilot certificates issued by the FAA when approved to do so.

Proposed paragraph (b) is revised in this final rule to remove the reference to satellite training centers located outside the United States.

The FAA has made editorial changes to this section to make it clear that a training center may prepare and recommend applicants for certificates and ratings, but may not actually issue a certificate or rating without authorization to issue a specific kind of certificate or rating.

Also, the FAA proposed, in § 142.7, a permanent certificate. The certificate could have been suspended or terminated, but would not require renewal. The objective of this proposal was to simplify paperwork and reduce the workload for the FAA and applicants. However, the FAA has determined that there is a need to provide for periodic renewal of a certificate for those training centers outside the United States in order to ensure adequate safety oversight. Other air agencies outside the United States, such as repair stations certificated under part 145, have annual renewal requirements.

This section is renumbered as § 142.19 and adopted with the changes discussed.

§ 142.21 Prohibited Drugs

Reserved. See the discussion above entitled "Part 142."

§ 142.23 Testing for Prohibited Drugs

Reserved. See the discussion above entitled "Part 142."

§ 142.25 Refusal to Submit to a Drug Test

Reserved. See the discussion above entitled "Part 142."

§ 142.27 Display of Certificate

No comments were received concerning this proposed section. Therefore, it is adopted as proposed.

§ 142.29 Inspections

This proposed section would require training centers to permit inspections by the FAA at reasonable times and places.

AMR made some suggestions for essentially editorial changes.

This section was adopted as proposed, with the small editorial changes suggested by the **commenter**.

§ 142.31 Advertising Limitations

This section proposed to restrict training center advertising to that training that has been approved by the Administrator.

Boeing and **AIA** commented that the proposal would restrict it from offering non-FAA approved training to non-U.S. customers. Several air carrier certificate holders commented that the proposal would preclude the conduct of training not under the jurisdiction of the Administrator, such as training for foreign corporations that would meet the requirements of that foreign country. Others commented that some training centers might want to offer training in ancillary subjects that are not required by any part of **14 CFR**. **Commenters** offered first aid, maintenance technician procedures, and meteorology as examples.

The FAA agrees that the proposed advertising limitations should be reworded to provide for circumstances such as those described by the **commenters**. Therefore proposed paragraph (a) has been revised to indicate that this section applies to training that is designed to satisfy any requirement of **14 CFR**. Any training offered by a training center that goes in whole or in part to satisfying a requirement of **14 CFR** must be approved. Training for other purposes need not be approved. Training that is not specifically approved by the FAA may not be advertised as FAA approved.

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§ 142.23 Testing for Prohibited Drugs

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Proposed paragraph (b) is revised in this final rule to remove the reference to satellite training centers located outside the United States.

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This section is renumbered as § 142.19 and adopted with the changes discussed.

§ 142.21 Prohibited Drugs

Reserved. See the discussion above entitled "Part 142."

§ 142.23 Testing for Prohibited Drugs

Reserved. See the discussion above entitled "Part 142."

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The FAA agrees that the proposed advertising limitations should be reworded to provide for circumstances such as those described by the **commenters**. Therefore proposed paragraph (a) has been revised to indicate that this section applies to training that is designed to satisfy any requirement of **14 CFR**. Any training offered by a training center that goes in whole or in part to satisfying a requirement of **14 CFR** must be approved. Training for other purposes need not be approved. Training that is not specifically approved by the FAA may not be advertised as FAA approved.

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As indicated above in response to **FSI's** comment regarding approval of the location of training centers, the FAA has amended proposed paragraph (a).

In paragraph (b), the FAA proposed that a training center or satellite training center located outside the United States may issue U.S. pilot certificates to U.S. citizens only but may add ratings, authorizations, and endorsements to all pilot certificates issued by the FAA when approved to do so.

Proposed paragraph (b) is revised in this final rule to remove the reference to satellite training centers located outside the United States.

The FAA has made editorial changes to this section to make it clear that a training center may prepare and recommend applicants for certificates and ratings, but may not actually issue a certificate or rating without authorization to issue a specific kind of certificate or rating.

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This section is renumbered as § 142.19 and adopted with the changes discussed.

§ 142.21 Prohibited Drugs

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§ 142.23 Testing for Prohibited Drugs

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This section was adopted as proposed, with the small editorial changes suggested by the **commenter**.

§ 142.31 Advertising Limitations

This section proposed to restrict training center advertising to that training that has been approved by the Administrator.

Boeing and **AIA** commented that the proposal would restrict it from offering non-FAA approved training to non-U.S. customers. Several air carrier certificate holders commented that the proposal would preclude the conduct of training not under the jurisdiction of the Administrator, such as training for foreign corporations that would meet the requirements of that foreign country. Others commented that some training centers might want to offer training in ancillary subjects that are not required by any part of **14 CFR**. **Commenters** offered first aid, maintenance technician procedures, and meteorology as examples.

The FAA agrees that the proposed advertising limitations should be reworded to provide for circumstances such as those described by the **commenters**. Therefore proposed paragraph (a) has been revised to indicate that this section applies to training that is designed to satisfy any requirement of **14 CFR**. Any training offered by a training center that goes in whole or in part to satisfying a requirement of **14 CFR** must be approved. Training for other purposes need not be approved. Training that is not specifically approved by the FAA may not be advertised as FAA approved.

AIA commented that this section seems to imply that all foreign training centers must be approved by the FAA.

As indicated above in response to **FSI's** comment regarding approval of the location of training centers, the FAA has amended proposed paragraph (a).

In paragraph (b), the FAA proposed that a training center or satellite training center located outside the United States may issue U.S. pilot certificates to U.S. citizens only but may add ratings, authorizations, and endorsements to all pilot certificates issued by the FAA when approved to do so.

Proposed paragraph (b) is revised in this final rule to remove the reference to satellite training centers located outside the United States.

The FAA has made editorial changes to this section to make it clear that a training center may prepare and recommend applicants for certificates and ratings, but may not actually issue a certificate or rating without authorization to issue a specific kind of certificate or rating.

Also, the FAA proposed, in § 142.7, a permanent certificate. The certificate could have been suspended or terminated, but would not require renewal. The objective of this proposal was to simplify paperwork and reduce the workload for the FAA and applicants. However, the FAA has determined that there is a need to provide for periodic renewal of a certificate for those training centers outside the United States in order to ensure adequate safety oversight. Other air agencies outside the United States, such as repair stations certificated under part 145, have annual renewal requirements.

This section is renumbered as § 142.19 and adopted with the changes discussed.

§ 142.21 Prohibited Drugs

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§ 142.23 Testing for Prohibited Drugs

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§ 142.25 Refusal to Submit to a Drug Test

Reserved. See the discussion above entitled "Part 142."

§ 142.27 Display of Certificate

No comments were received concerning this proposed section. Therefore, it is adopted as proposed.

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This proposed section would require training centers to permit inspections by the FAA at reasonable times and places.

AMR made some suggestions for essentially editorial changes.

This section was adopted as proposed, with the small editorial changes suggested by the **commenter**.

§ 142.31 Advertising Limitations

This section proposed to restrict training center advertising to that training that has been approved by the Administrator.

Boeing and **AIA** commented that the proposal would restrict it from offering non-FAA approved training to non-U.S. customers. Several air carrier certificate holders commented that the proposal would preclude the conduct of training not under the jurisdiction of the Administrator, such as training for foreign corporations that would meet the requirements of that foreign country. Others commented that some training centers might want to offer training in ancillary subjects that are not required by any part of **14 CFR**. **Commenters** offered first aid, maintenance technician procedures, and meteorology as examples.

The FAA agrees that the proposed advertising limitations should be reworded to provide for circumstances such as those described by the **commenters**. Therefore proposed paragraph (a) has been revised to indicate that this section applies to training that is designed to satisfy any requirement of **14 CFR**. Any training offered by a training center that goes in whole or in part to satisfying a requirement of **14 CFR** must be approved. Training for other purposes need not be approved. Training that is not specifically approved by the FAA may not be advertised as FAA approved.

This is not a correct interpretation of the proposal. The alternative requirements for instructors that are outlined in preceding paragraphs provide for a training center to employ instructors in simulation only who do not hold an airman medical certificate.

Since the publication of the **NPRM**, and in response to a petition from the public to amend existing exemptions, the FAA has allowed persons to qualify as simulator-only instructors without holding an instructor certificate, if those persons meet certain alternative qualifications. The FAA has determined that it is appropriate to include those alternative qualifications in this final rule; therefore, this section has been restructured accordingly. The alternative qualifications will allow training centers to employ as instructors persons who are former military pilots, former or current airline pilots, and other persons who may not hold an instructor certificate. Instructors who instruct in a required crewmember seat in flight must hold a flight instructor certificate with appropriate ratings and an airman medical certificate. The alternative qualification requires a training center to train a potential instructor in specified subjects, and to administer a written test following the instruction. The written test must be approved as a part of the training program. The test must be of similar complexity, difficulty, and scope as the written test for flight instructor airplane and instrument flight instructor. Training center certificate applicants and training centers may consult publication **FAA-T-8081-18, *Flight and Ground Instructor Written Test Book*** for guidance in developing the written test. The FAA does not intend that the test include questions about flight maneuvers such as turns about a point, **chandelles**, and spins.

This section is adopted with the changes discussed.

§ 142.49 Training Center Instructor Privileges and Limitations

This section proposed that, to instruct in an aircraft, a training center instructor must hold a current flight instructor certificate with certificates and ratings applicable to the aircraft used for instruction, hold at least a valid second class medical certificate, and meet the **recency** of experience requirements of part **61**. These proposed requirements for aircraft flight instructors are the same as those currently required by part **61**.

AMR commented that, by using the words “training, testing, and checking” in proposed paragraph (b), the FAA would impose these requirements on evaluators as well as instructors, and noted that there are no proposed sections dealing with evaluator privileges and limitations. **AMR** suggested changing the title of this section to include evaluators.

The FAA agrees that the title should be changed as recommended and has reworded the title accordingly and has added evaluation to this paragraph.

Proposed paragraph (c) included the following:

(c) A training center may not allow an instructor to-

(1) Excluding briefings and debriefings, conduct more than 8 hours of instruction in any **24-consecutive-hour** period.

FSI, **ATA**, and several air carrier certificate holders commented that the duty times proposed in this paragraph are too restrictive.

Flight instructor duty time was discussed under **§ 61.169**. As discussed in that section, the FAA is convinced that it is in the interest of safety to assure that instructors are not unduly fatigued when instructing pilots. The proposed duty-time limitations are considered necessary to ensure that instructors are sufficiently alert when giving required instruction.

The FAA has, however, amended this and **§ 61.169** to exclude briefings and debriefings in response to the concerns of these **commenters**.

FSI commented that the words “. . . any 24-consecutive-hour period” in proposed Paragraph (c)(1) be changed to “. . . a day.”

The FAA disagrees with the **commenter’s** suggested wording, for such wording would allow an instructor to conduct **16** consecutive hours of instruction, excluding briefings and debriefings. This practice is considered unacceptable for the reasons stated above.

Proposed paragraph (c)(3)(iv) states that a training center may not allow an instructor to provide flight instruction in an aircraft unless that instructor holds at least a valid second class medical certificate.

ATA and several part **121** certificate holders commented that this paragraph should specify that **an** instructor who instructs only in simulation need not hold a medical certificate.

This is not a correct interpretation of the proposal. The alternative requirements for instructors that are outlined in preceding paragraphs provide for a training center to employ instructors in simulation only who do not hold an airman medical certificate.

Since the publication of the **NPRM**, and in response to a petition from the public to amend existing exemptions, the FAA has allowed persons to qualify as simulator-only instructors without holding an instructor certificate, if those persons meet certain alternative qualifications. The FAA has determined that it is appropriate to include those alternative qualifications in this final rule; therefore, this section has been restructured accordingly. The alternative qualifications will allow training centers to employ as instructors persons who are former military pilots, former or current airline pilots, and other persons who may not hold an instructor certificate. Instructors who instruct in a required crewmember seat in flight must hold a flight instructor certificate with appropriate ratings and an airman medical certificate. The alternative qualification requires a training center to train a potential instructor in specified subjects, and to administer a written test following the instruction. The written test must be approved as a part of the training program. The test must be of similar complexity, difficulty, and scope as the written test for flight instructor airplane and instrument flight instructor. Training center certificate applicants and training centers may consult publication **FAA-T-8081-18, *Flight and Ground Instructor Written Test Book*** for guidance in developing the written test. The FAA does not intend that the test include questions about flight maneuvers such as turns about a point, **chandelles**, and spins.

This section is adopted with the changes discussed.

§ 142.49 Training Center Instructor Privileges and Limitations

This section proposed that, to instruct in an aircraft, a training center instructor must hold a current flight instructor certificate with certificates and ratings applicable to the aircraft used for instruction, hold at least a valid second class medical certificate, and meet the **recency** of experience requirements of part **61**. These proposed requirements for aircraft flight instructors are the same as those currently required by part **61**.

AMR commented that, by using the words “training, testing, and checking” in proposed paragraph (b), the FAA would impose these requirements on evaluators as well as instructors, and noted that there are no proposed sections dealing with evaluator privileges and limitations. **AMR** suggested changing the title of this section to include evaluators.

The FAA agrees that the title should be changed as recommended and has reworded the title accordingly and has added evaluation to this paragraph.

Proposed paragraph (c) included the following:

(c) A training center may not allow an instructor to-

(1) Excluding briefings and debriefings, conduct more than 8 hours of instruction in any **24-consecutive-hour** period.

FSI, **ATA**, and several air carrier certificate holders commented that the duty times proposed in this paragraph are too restrictive.

Flight instructor duty time was discussed under **§ 61.169**. As discussed in that section, the FAA is convinced that it is in the interest of safety to assure that instructors are not unduly fatigued when instructing pilots. The proposed duty-time limitations are considered necessary to ensure that instructors are sufficiently alert when giving required instruction.

The FAA has, however, amended this and **§ 61.169** to exclude briefings and debriefings in response to the concerns of these **commenters**.

FSI commented that the words “. . . any 24-consecutive-hour period” in proposed Paragraph (c)(1) be changed to “. . . a day.”

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§ 142.59 Flight Simulators and Flight Training Devices

Section 142.59(a) proposed that flight simulators and flight training devices used in an approved training program must be qualified by the Administrator. Paragraph (a) of this section also proposed that a flight simulator or flight training device be approved for use in a training center training program curriculum. The preamble to paragraph (a) contained the statements “Simulation has benefit only if behaviors learned can be transferred to the aircraft. No effective transfer of learning has been demonstrated except from flight simulators and flight training devices that accurately replicate the performance of an aircraft.”

ATA and several part 121 air carriers commented that the statement about effective transfer of learning is untrue.

Based on its experience with flight simulation and on study evidence available to its National Simulator Program Manager (NSPM), the FAA has concluded that the statements are true. While some learning may transfer from devices that do not accurately replicate aircraft, the experience gained is not adequate to justify their use as a sole means of training, testing, and checking.

A few air carriers commented that they were not sure what was meant by the words “make, model, and series” used in an example that was provided in the NPRM preamble to proposed paragraph (a)(1), which stated, “If part 61 . . . requires landing in a particular make, model, and series aircraft, then a flight simulator used to simulate that aircraft would have to be qualified and approved both for the visual landing and to simulate the make, model, and series of aircraft.” They provide an example of an aircraft type and different models of that type.

The commenters are correct. The FAA did not intend to distinguish between manufacturers’ models of the same aircraft type. To make it clear that only the particular aircraft type need be simulated, as intended, the FAA has added the words “or aircraft type” to the text of paragraph (a)(1) in the final rule.

Section 142.59(c)(1) proposed that flight simulators and flight training devices used by training centers be maintained to ensure the reliability of the performances, functions, and all other characteristics that were required for initial qualification of the equipment.

One commenter pointed out an editorial omission of the word “qualification” in the text of this paragraph. The commenter indicated that the last word of proposed paragraph (c)(1) should be “qualification” and not “approval.”

The technical guidelines for flight simulators are listed in AC 120-45, as amended. That AC defines qualification as distinct from, and preceding, approval of a flight simulator. The FAA has determined that it should continue the use of commonly accepted words to avoid possible confusion.

Section 142.59(c)(3) proposed that flight simulators and flight training devices used under part 142 be given a functional check before being used. Further, this paragraph proposed that training center instructors must keep a discrepancy log, and enter all discrepancies in that log at the end of each training session or check.

One commenter asked how often the preflight requirement must be met and also the purpose of the requirement.

The preflight is required each day the flight simulator is used. The FAA added the words “each day” to proposed paragraph (c)(3) to make clear the requirement for frequency of preflight inspections. The purpose of preflight inspections is for the instructor to determine whether the applicable Simulator Component Inoperative Guide (SCIG), if any, has been met, or whether all simulator components needed for a specific training or testing period are present and operative. The FAA believes that, to ensure effective training, a flight simulator or flight training devices must accurately replicate the performance of an aircraft. The FAA can determine that flight simulation accurately replicates an aircraft only if all components of a flight simulator or flight training device are checked for proper operation before the device is used.

Section 142.59(d) proposed that, unless otherwise authorized by the Administrator (in an SCIG), all components on a flight simulator or flight training device used by a training center must be operative to ensure faithful replication of aircraft capabilities.

Several comments were received concerning this proposal. Generally, the comments addressed aircraft Minimum Equipment List (MEL), and the fact that the FAA has not developed a master MEL for flight simulators.

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employees completing an air carrier training program and meeting other terms of the waiver provision of appendix A. The persons identified by the **commenters** specifically do not meet the waiver requirements. Large airplanes are operated by persons other than air carrier certificate holders. The FAA certifies airmen to operate aircraft of various sizes under the provisions of several parts of **14 CFR**. The part of **14 CFR** under which a pilot is operating, and not the size of the airplane flown by the pilot, determines the pilot's prerequisite qualification and certification requirements.

Several of the comments made about this section are similar, or identical to, comments made about proposed §§ **61.63**, **61.64**, **61.157**, and **61.158**. The comments generally addressed applicability of specific training programs to various groups of airmen and the perception of a dual standard for an **ATP** certificate.

The FAA response to those similar or identical comments **apply** also to this section. Refer to those sections for discussion of related comments.

For the reasons discussed, this section is adopted as proposed.

§ 142.63 Privileges

Section **142.63** proposed to permit training center instructors and evaluators to meet **recency** of experience requirements in a flight simulator or flight training device, if the flight simulator or flight training device is used in a course approved in accordance with subpart B or subpart F, as applicable.

This section was revised to delete a reference to subpart F, which has been withdrawn, and to recognize that **AQP** makes separate and valid provisions for **recency** of experience of simulation instructors. With the revisions mentioned, this section is adopted as proposed.

§ 142.65 Limitations

Because the FAA intends that flight simulators used in testing, checking, or LOS provide the same time constraints and sequential, or overlapping, circumstances that occur in an actual aircraft, § **142.65(a)** proposed to prohibit the use of flight simulator or flight training device repositioning, freeze, or slow motion **features** during testing, checking, and LOFT.

ATA, several part **121** certificate holders, and an aircraft manufacturer commented that prohibiting the use of repositioning during **LOFT** might cause several hours of simulated cruise flight with very little value.

The FAA agrees with the **commenters**, and has revised proposed paragraph (a) by adding paragraph (a)(2) to permit the use of reposition along a route of flight to a point where the descent and approach phase of the flight begins. Also, in paragraph (a)(1), any slow motion, hold, or reposition features may be used at any time during training and practice, to help stimulate the simulation industry by helping minimize nonproductive time spent in a flight simulator.

Proposed § **142.65(b)(1)** would require a crewmember qualified in the aircraft category, class, and type, if a type rating is required, to occupy each crewmember position during testing, checking, or LOS. During Category II and Category III testing, the copilot position would have to be occupied by a pilot qualified to perform the duties of an SIC for Category II or Category III operations, as applicable.

Airbus commented that this section would effectively prohibit the use of a medically disqualified (simulated) **PIC** during SIC training and testing unless the **PIC** had been fully qualified before serving in this capacity.

The FAA believes that a **PIC** should be able to function as a required crewmember during simulation testing even though he or she does not hold a valid medical certificate, provided that he or she is otherwise qualified in the flight simulator or was qualified in the aircraft type before losing medical certification. The FAA has determined that there is no safety hazard created by persons operating flight simulators without a valid medical certificate. Accordingly, a new paragraph (b)(3) has been added to allow for use of a **PIC** meeting the circumstances just discussed, and the section is adopted as otherwise proposed.

Subpart E—Recordkeeping

§ 142.71 Applicability

Proposed subpart E, "Recordkeeping," prescribed the records that a training center certificate holder must maintain for students who are not aircrew employees of operators under part **121**, **125**, or **135**, and the records that would have to be maintained for instructors and evaluators authorized in accordance with subpart B of part **142**.

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at a training center certificated under part 142. ICAO Annex I, Chapter 2, § 2.6.1.2.2 allows only 30 hours of credit, and requires 10 hours of that experience to be in an actual aircraft.

2. Section 61.113, “Rotorcraft rating: Aeronautical experience,” will allow an applicant to qualify for this rating with 35 hours of flight experience, any part of which may be simulated flight, if that applicant completes an entire approved helicopter rating curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.7.1.3.1 requires 40 hours of flight experience for this rating, of which only 5 hours can be simulated flight.

3. Section 61.129, “(Commercial) Airplane rating: Aeronautical experience,” will allow up to 100 hours of flight time to be simulated flight if accomplished in an approved flight simulator or approved flight training device, and any part of the 190 hour total experience requirement to be simulated flight if the applicant completes an entire approved commercial airplane curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.4.1.3 allows credit for only 10 hours of simulated flight experience. It should be noted that the superseded § 61.129 allowed credit for 50 hours of simulated flight time toward this rating, which was different from ICAO standards.

The FAA will file a Statement of Differences with ICAO to notify that body of the listed differences.

Paperwork Reduction Act

The reporting and recordkeeping requirements associated with this rule have been approved by the Office of Management and Budget and have been assigned number 2120–0570. Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Regulatory Evaluation Summary

Changes to Federal regulations are required to undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effect of regulatory changes on international trade. With respect to this final rule, the FAA has determined that it: (1) Will generate benefits that justify its costs and is a “significant regulatory action” as defined in the Executive Order; (2) is significant as defined in the Department of Transportation’s Regulatory Policies and Procedures; (3) will not have a significant impact on a substantial number of small entities; and (4) will not constitute a barrier to international trade. Therefore, a full regulatory analysis, which includes the identification and evaluation of cost-reducing alternatives to this rule, has not been prepared. Instead, the agency has prepared a more concise analysis of this final rule in a regulatory evaluation, which is summarized in the following paragraphs.

Benefits

This rule provides benefits by reducing the amount of training aircraft flight hours. The increased substitution of on-the-ground training in flight simulators and flight training devices for in-the-air training in aircraft decreases the risk of fatal aviation accidents while training. The increased substitution also yields cost savings resulting from reduced fuel and oil consumption (energy conservation), as well as reduced required maintenance costs.

Most of the cost savings come from lowered operations costs, resulting from using simulators and training devices instead of aircraft. The estimated savings from existing simulator training centers training pilots under parts 121, 135, and 91 will be \$1.2 billion (\$808 million discounted) over the next 10 years. Furthermore, the final rule will generate additional savings from increased simulator training of general aviation pilots over the next decade that total \$37 million (\$23 million discounted). The total discounted savings attributed to reduced training aircraft flight hours equals \$831 million over the next 10 years.

The FAA also estimates the value of the safety benefit at \$42 million (\$26 million discounted) over the same period. Thus, the total discounted value of part 142 benefits equals \$857 million: \$832 million resulting from greater energy conservation, and \$26 million resulting from reduced training accidents.

Costs

Two elements make up the additional administrative cost of part 142: (1) The cost for organizations currently engaged in flight instruction to apply to qualify for a part 142 certificate; and (2) the cost for the government to process and to monitor those applications as well as to inspect and to train

at a training center certificated under part 142. ICAO Annex I, Chapter 2, § 2.6.1.2.2 allows only 30 hours of credit, and requires 10 hours of that experience to be in an actual aircraft.

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Benefits

This rule provides benefits by reducing the amount of training aircraft flight hours. The increased substitution of on-the-ground training in flight simulators and flight training devices for in-the-air training in aircraft decreases the risk of fatal aviation accidents while training. The increased substitution also yields cost savings resulting from reduced fuel and oil consumption (energy conservation), as well as reduced required maintenance costs.

Most of the cost savings come from lowered operations costs, resulting from using simulators and training devices instead of aircraft. The estimated savings from existing simulator training centers training pilots under parts 121, 135, and 91 will be \$1.2 billion (\$808 million discounted) over the next 10 years. Furthermore, the final rule will generate additional savings from increased simulator training of general aviation pilots over the next decade that total \$37 million (\$23 million discounted). The total discounted savings attributed to reduced training aircraft flight hours equals \$831 million over the next 10 years.

The FAA also estimates the value of the safety benefit at \$42 million (\$26 million discounted) over the same period. Thus, the total discounted value of part 142 benefits equals \$857 million: \$832 million resulting from greater energy conservation, and \$26 million resulting from reduced training accidents.

Costs

Two elements make up the additional administrative cost of part 142: (1) The cost for organizations currently engaged in flight instruction to apply to qualify for a part 142 certificate; and (2) the cost for the government to process and to monitor those applications as well as to inspect and to train

at a training center certificated under part 142. ICAO Annex I, Chapter 2, § 2.6.1.2.2 allows only 30 hours of credit, and requires 10 hours of that experience to be in an actual aircraft.

2. Section 61.113, “Rotorcraft rating: Aeronautical experience,” will allow an applicant to qualify for this rating with 35 hours of flight experience, any part of which may be simulated flight, if that applicant completes an entire approved helicopter rating curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.7.1.3.1 requires 40 hours of flight experience for this rating, of which only 5 hours can be simulated flight.

3. Section 61.129, “(Commercial) Airplane rating: Aeronautical experience,” will allow up to 100 hours of flight time to be simulated flight if accomplished in an approved flight simulator or approved flight training device, and any part of the 190 hour total experience requirement to be simulated flight if the applicant completes an entire approved commercial airplane curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.4.1.3 allows credit for only 10 hours of simulated flight experience. It should be noted that the superseded § 61.129 allowed credit for 50 hours of simulated flight time toward this rating, which was different from ICAO standards.

The FAA will file a Statement of Differences with ICAO to notify that body of the listed differences.

Paperwork Reduction Act

The reporting and recordkeeping requirements associated with this rule have been approved by the Office of Management and Budget and have been assigned number 2120–0570. Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Regulatory Evaluation Summary

Changes to Federal regulations are required to undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effect of regulatory changes on international trade. With respect to this final rule, the FAA has determined that it: (1) Will generate benefits that justify its costs and is a “significant regulatory action” as defined in the Executive Order; (2) is significant as defined in the Department of Transportation’s Regulatory Policies and Procedures; (3) will not have a significant impact on a substantial number of small entities; and (4) will not constitute a barrier to international trade. Therefore, a full regulatory analysis, which includes the identification and evaluation of cost-reducing alternatives to this rule, has not been prepared. Instead, the agency has prepared a more concise analysis of this final rule in a regulatory evaluation, which is summarized in the following paragraphs.

Benefits

This rule provides benefits by reducing the amount of training aircraft flight hours. The increased substitution of on-the-ground training in flight simulators and flight training devices for in-the-air training in aircraft decreases the risk of fatal aviation accidents while training. The increased substitution also yields cost savings resulting from reduced fuel and oil consumption (energy conservation), as well as reduced required maintenance costs.

Most of the cost savings come from lowered operations costs, resulting from using simulators and training devices instead of aircraft. The estimated savings from existing simulator training centers training pilots under parts 121, 135, and 91 will be \$1.2 billion (\$808 million discounted) over the next 10 years. Furthermore, the final rule will generate additional savings from increased simulator training of general aviation pilots over the next decade that total \$37 million (\$23 million discounted). The total discounted savings attributed to reduced training aircraft flight hours equals \$831 million over the next 10 years.

The FAA also estimates the value of the safety benefit at \$42 million (\$26 million discounted) over the same period. Thus, the total discounted value of part 142 benefits equals \$857 million: \$832 million resulting from greater energy conservation, and \$26 million resulting from reduced training accidents.

Costs

Two elements make up the additional administrative cost of part 142: (1) The cost for organizations currently engaged in flight instruction to apply to qualify for a part 142 certificate; and (2) the cost for the government to process and to monitor those applications as well as to inspect and to train

at a training center certificated under part 142. ICAO Annex I, Chapter 2, § 2.6.1.2.2 allows only 30 hours of credit, and requires 10 hours of that experience to be in an actual aircraft.

2. Section 61.113, “Rotorcraft rating: Aeronautical experience,” will allow an applicant to qualify for this rating with 35 hours of flight experience, any part of which may be simulated flight, if that applicant completes an entire approved helicopter rating curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.7.1.3.1 requires 40 hours of flight experience for this rating, of which only 5 hours can be simulated flight.

3. Section 61.129, “(Commercial) Airplane rating: Aeronautical experience,” will allow up to 100 hours of flight time to be simulated flight if accomplished in an approved flight simulator or approved flight training device, and any part of the 190 hour total experience requirement to be simulated flight if the applicant completes an entire approved commercial airplane curriculum at a training center certificated under part 142. ICAO Annex I, Chapter 7, § 2.4.1.3 allows credit for only 10 hours of simulated flight experience. It should be noted that the superseded § 61.129 allowed credit for 50 hours of simulated flight time toward this rating, which was different from ICAO standards.

The FAA will file a Statement of Differences with ICAO to notify that body of the listed differences.

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Benefits

This rule provides benefits by reducing the amount of training aircraft flight hours. The increased substitution of on-the-ground training in flight simulators and flight training devices for in-the-air training in aircraft decreases the risk of fatal aviation accidents while training. The increased substitution also yields cost savings resulting from reduced fuel and oil consumption (energy conservation), as well as reduced required maintenance costs.

Most of the cost savings come from lowered operations costs, resulting from using simulators and training devices instead of aircraft. The estimated savings from existing simulator training centers training pilots under parts 121, 135, and 91 will be \$1.2 billion (\$808 million discounted) over the next 10 years. Furthermore, the final rule will generate additional savings from increased simulator training of general aviation pilots over the next decade that total \$37 million (\$23 million discounted). The total discounted savings attributed to reduced training aircraft flight hours equals \$831 million over the next 10 years.

The FAA also estimates the value of the safety benefit at \$42 million (\$26 million discounted) over the same period. Thus, the total discounted value of part 142 benefits equals \$857 million: \$832 million resulting from greater energy conservation, and \$26 million resulting from reduced training accidents.

Costs

Two elements make up the additional administrative cost of part 142: (1) The cost for organizations currently engaged in flight instruction to apply to qualify for a part 142 certificate; and (2) the cost for the government to process and to monitor those applications as well as to inspect and to train

Aviation Rulemaking Advisory Committee (ARAC) working group (see Notice of Establishment of Propulsion Harmonization Working Group at 57 FR 58840, December 11, 1992). Except for the proposed revisions to § 33.27 and other changes as indicated herein, the proposals contained in SNPRM 89-27A have been adopted without change.

Discussion of Comments

The commenters represent domestic and foreign engine manufacturers, and foreign civil airworthiness authorities. Four commenters provided the FAA with comments to NPRM 89-27, addressing numerous issues. The FAA also received comments to SNPRM 89-27A from three commenters. This discussion addresses all the comments made to SNPRM 89-27A, plus those comments made to NPRM 89-27 that were not already addressed in the discussion section of SNPRM 89-27A. Some comments presented orally at the November 16, 1989, public meeting have not been addressed here, since they have been withdrawn; other oral comments were submitted in writing to the rules docket. The transcript of the public meeting is in the Rules Docket. The comments are grouped according to the applicable sections of the proposed amendment, with general comments discussed first.

General Comments

One commenter recommends that the FAA should publish the proposals as worded in the SNPRM as a Final rule for all applicable 14 CFR part 1 and 33 sections, with the exception of the proposed revisions to § 33.27.

One commenter states that the new structure of helicopter engine ratings as proposed creates a new certification scheme for helicopters and, accordingly, all the pertinent regulatory and advisory matter must be considered at the same time. The commenter points out that guidance material for the proposed ratings, including the maintenance inspection requirements under § 33.90 and on the issue of power assurance, is not available. Therefore, the commenter states that an acceptable level of safety cannot be achieved until all advisory and regulatory material can be reviewed at the same time.

The FAA disagrees. Even though specific advisory material that addresses the new OEI ratings is not yet available, the FAA will not delay issuing this Final rule. The existing guidance material on the issue of power assurance, which is a certification requirement of the helicopter under §§ 27.45(f) and 29.45(f), may be of assistance to applicants for type certification. A joint effort between the FAA's Engine and Propeller Directorate and the Rotorcraft Directorate, and both the engine and the helicopter industry, has resulted in a report published by the Society of Automotive Engineers (SAE), Aerospace Information Report AIR4083, "Helicopter Power Assurance," dated July 13, 1989. Also, guidance material addressing the existing § 33.90 is provided in FAA Advisory Circular (AC) AC 33-2B, "Aircraft Engine Type Certification Handbook". This AC will be revised to include guidance material on power assurance and mandatory maintenance requirements for the new OEI ratings following the adoption of this Final rule. The FAA plans to issue advisory material for these new OEI ratings as soon as practical.

The commenter also states that this rulemaking is based on an assumption that the new OEI ratings will be used only during the takeoff and landing phases of flight. The commenter speculates that it would be possible that these new ratings be utilized under the "External Load Operations" provisions of § 133.45(e)(1). The commenter suggests that the Regulatory Evaluation section needs to address whether this assumption will be invalidated if the enhanced OEI performance is taken into account for other than takeoff and landing purposes.

The FAA disagrees. While the proposed new OEI ratings are intended to be used only after the failure of one engine on a multiengine rotorcraft during takeoff, climb, or landing, it is entirely possible that these new ratings might be utilized to meet the provisions of current § 133.45(e)(1), if the rotorcraft and the operator fulfill those criteria. Therefore, the Regulatory Evaluation does not depend on how the higher power levels associated with the new OEI ratings may be used in showing compliance with an existing regulation. In addition the commenter does not suggest any changes to the regulatory language of the proposed amendment to part 1 or part 33 to address that concern. These new ratings are intended to supplement the existing OEI rating structure for the type certification of engines and rotorcraft. Existing rotorcraft operating rules with respect to OEI conditions should not be impacted by the addition of the 30-second and the 2-minute OEI ratings.

§1.1 Definitions

One commenter recommends that the existing § 1.1 definition of rated 30-minute OEI power should be amended to clarify that the period of use must not exceed a total of 30 minutes during any flight. The commenter further states that many authorities are aware of instances of misinterpretations, not precluded by Flight Manuals, whereby more than 30 minutes of 30-minute OEI power could have been accumulated

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The FAA disagrees. Even though specific advisory material that addresses the new OEI ratings is not yet available, the FAA will not delay issuing this Final rule. The existing guidance material on the issue of power assurance, which is a certification requirement of the helicopter under §§ 27.45(f) and 29.45(f), may be of assistance to applicants for type certification. A joint effort between the FAA's Engine and Propeller Directorate and the Rotorcraft Directorate, and both the engine and the helicopter industry, has resulted in a report published by the Society of Automotive Engineers (SAE), Aerospace Information Report AIR4083, "Helicopter Power Assurance," dated July 13, 1989. Also, guidance material addressing the existing § 33.90 is provided in FAA Advisory Circular (AC) AC 33-2B, "Aircraft Engine Type Certification Handbook". This AC will be revised to include guidance material on power assurance and mandatory maintenance requirements for the new OEI ratings following the adoption of this Final rule. The FAA plans to issue advisory material for these new OEI ratings as soon as practical.

The commenter also states that this rulemaking is based on an assumption that the new OEI ratings will be used only during the takeoff and landing phases of flight. The commenter speculates that it would be possible that these new ratings be utilized under the "External Load Operations" provisions of § 133.45(e)(1). The commenter suggests that the Regulatory Evaluation section needs to address whether this assumption will be invalidated if the enhanced OEI performance is taken into account for other than takeoff and landing purposes.

The FAA disagrees. While the proposed new OEI ratings are intended to be used only after the failure of one engine on a multiengine rotorcraft during takeoff, climb, or landing, it is entirely possible that these new ratings might be utilized to meet the provisions of current § 133.45(e)(1), if the rotorcraft and the operator fulfill those criteria. Therefore, the Regulatory Evaluation does not depend on how the higher power levels associated with the new OEI ratings may be used in showing compliance with an existing regulation. In addition the commenter does not suggest any changes to the regulatory language of the proposed amendment to part 1 or part 33 to address that concern. These new ratings are intended to supplement the existing OEI rating structure for the type certification of engines and rotorcraft. Existing rotorcraft operating rules with respect to OEI conditions should not be impacted by the addition of the 30-second and the 2-minute OEI ratings.

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The FAA disagrees. Even though specific advisory material that addresses the new OEI ratings is not yet available, the FAA will not delay issuing this Final rule. The existing guidance material on the issue of power assurance, which is a certification requirement of the helicopter under §§ 27.45(f) and 29.45(f), may be of assistance to applicants for type certification. A joint effort between the FAA's Engine and Propeller Directorate and the Rotorcraft Directorate, and both the engine and the helicopter industry, has resulted in a report published by the Society of Automotive Engineers (SAE), Aerospace Information Report AIR4083, "Helicopter Power Assurance," dated July 13, 1989. Also, guidance material addressing the existing § 33.90 is provided in FAA Advisory Circular (AC) AC 33-2B, "Aircraft Engine Type Certification Handbook". This AC will be revised to include guidance material on power assurance and mandatory maintenance requirements for the new OEI ratings following the adoption of this Final rule. The FAA plans to issue advisory material for these new OEI ratings as soon as practical.

The commenter also states that this rulemaking is based on an assumption that the new OEI ratings will be used only during the takeoff and landing phases of flight. The commenter speculates that it would be possible that these new ratings be utilized under the "External Load Operations" provisions of § 133.45(e)(1). The commenter suggests that the Regulatory Evaluation section needs to address whether this assumption will be invalidated if the enhanced OEI performance is taken into account for other than takeoff and landing purposes.

The FAA disagrees. While the proposed new OEI ratings are intended to be used only after the failure of one engine on a multiengine rotorcraft during takeoff, climb, or landing, it is entirely possible that these new ratings might be utilized to meet the provisions of current § 133.45(e)(1), if the rotorcraft and the operator fulfill those criteria. Therefore, the Regulatory Evaluation does not depend on how the higher power levels associated with the new OEI ratings may be used in showing compliance with an existing regulation. In addition the commenter does not suggest any changes to the regulatory language of the proposed amendment to part 1 or part 33 to address that concern. These new ratings are intended to supplement the existing OEI rating structure for the type certification of engines and rotorcraft. Existing rotorcraft operating rules with respect to OEI conditions should not be impacted by the addition of the 30-second and the 2-minute OEI ratings.

§1.1 Definitions

One commenter recommends that the existing § 1.1 definition of rated 30-minute OEI power should be amended to clarify that the period of use must not exceed a total of 30 minutes during any flight. The commenter further states that many authorities are aware of instances of misinterpretations, not precluded by Flight Manuals, whereby more than 30 minutes of 30-minute OEI power could have been accumulated

Aviation Rulemaking Advisory Committee (ARAC) working group (see Notice of Establishment of Propulsion Harmonization Working Group at 57 FR 58840, December 11, 1992). Except for the proposed revisions to § 33.27 and other changes as indicated herein, the proposals contained in SNPRM 89-27A have been adopted without change.

Discussion of Comments

The commenters represent domestic and foreign engine manufacturers, and foreign civil airworthiness authorities. Four commenters provided the FAA with comments to NPRM 89-27, addressing numerous issues. The FAA also received comments to SNPRM 89-27A from three commenters. This discussion addresses all the comments made to SNPRM 89-27A, plus those comments made to NPRM 89-27 that were not already addressed in the discussion section of SNPRM 89-27A. Some comments presented orally at the November 16, 1989, public meeting have not been addressed here, since they have been withdrawn; other oral comments were submitted in writing to the rules docket. The transcript of the public meeting is in the Rules Docket. The comments are grouped according to the applicable sections of the proposed amendment, with general comments discussed first.

General Comments

One commenter recommends that the FAA should publish the proposals as worded in the SNPRM as a Final rule for all applicable 14 CFR part 1 and 33 sections, with the exception of the proposed revisions to § 33.27.

One commenter states that the new structure of helicopter engine ratings as proposed creates a new certification scheme for helicopters and, accordingly, all the pertinent regulatory and advisory matter must be considered at the same time. The commenter points out that guidance material for the proposed ratings, including the maintenance inspection requirements under § 33.90 and on the issue of power assurance, is not available. Therefore, the commenter states that an acceptable level of safety cannot be achieved until all advisory and regulatory material can be reviewed at the same time.

The FAA disagrees. Even though specific advisory material that addresses the new OEI ratings is not yet available, the FAA will not delay issuing this Final rule. The existing guidance material on the issue of power assurance, which is a certification requirement of the helicopter under §§ 27.45(f) and 29.45(f), may be of assistance to applicants for type certification. A joint effort between the FAA's Engine and Propeller Directorate and the Rotorcraft Directorate, and both the engine and the helicopter industry, has resulted in a report published by the Society of Automotive Engineers (SAE), Aerospace Information Report AIR4083, "Helicopter Power Assurance," dated July 13, 1989. Also, guidance material addressing the existing § 33.90 is provided in FAA Advisory Circular (AC) AC 33-2B, "Aircraft Engine Type Certification Handbook". This AC will be revised to include guidance material on power assurance and mandatory maintenance requirements for the new OEI ratings following the adoption of this Final rule. The FAA plans to issue advisory material for these new OEI ratings as soon as practical.

The commenter also states that this rulemaking is based on an assumption that the new OEI ratings will be used only during the takeoff and landing phases of flight. The commenter speculates that it would be possible that these new ratings be utilized under the "External Load Operations" provisions of § 133.45(e)(1). The commenter suggests that the Regulatory Evaluation section needs to address whether this assumption will be invalidated if the enhanced OEI performance is taken into account for other than takeoff and landing purposes.

The FAA disagrees. While the proposed new OEI ratings are intended to be used only after the failure of one engine on a multiengine rotorcraft during takeoff, climb, or landing, it is entirely possible that these new ratings might be utilized to meet the provisions of current § 133.45(e)(1), if the rotorcraft and the operator fulfill those criteria. Therefore, the Regulatory Evaluation does not depend on how the higher power levels associated with the new OEI ratings may be used in showing compliance with an existing regulation. In addition the commenter does not suggest any changes to the regulatory language of the proposed amendment to part 1 or part 33 to address that concern. These new ratings are intended to supplement the existing OEI rating structure for the type certification of engines and rotorcraft. Existing rotorcraft operating rules with respect to OEI conditions should not be impacted by the addition of the 30-second and the 2-minute OEI ratings.

§ 1.1 Definitions

One commenter recommends that the existing § 1.1 definition of rated 30-minute OEI power should be amended to clarify that the period of use must not exceed a total of 30 minutes during any flight. The commenter further states that many authorities are aware of instances of misinterpretations, not precluded by Flight Manuals, whereby more than 30 minutes of 30-minute OEI power could have been accumulated

that may not be suitable for further use must be discarded and replaced in order to maintain the continued airworthiness of the engine. The existing minimum level of engine airworthiness will be maintained under this rule by virtue of new and existing design, analysis, and test certification requirements. In summary, the FAA finds that the benefits of this rule will exceed the costs.

International Trade Impact Analysis

These rule changes will have little or no impact on trade for both U.S. firms doing business in foreign countries and foreign firms doing business in the United States. In the U.S. market, foreign manufacturers will have the option of designing engines and helicopters capable of satisfying the new **OEI** ratings and therefore will not be at a competitive disadvantage with U.S. manufacturers. Because of the large U.S. market, foreign manufacturers are likely to certify their rotorcraft to U.S. rules, which will limit any competitive advantage U.S. manufacturers might gain in foreign markets.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (**RFA**) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionately burdened by Government regulations. The **RFA** requires a Regulatory Flexibility Analysis if a rule would have a significant economic impact, either detrimental or beneficial, on a substantial number of small entities. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, establishes threshold cost values and small entity size standards for complying with **RFA** review requirements in FAA rulemaking actions. A review of domestic engine manufacturers indicates that none meets the minimum size threshold. As such, the FAA has determined that this rule will not have significant economic impact on a substantial number of small entities.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not a significant regulatory action under Executive Order 12866. In addition, the FAA certifies that these amendments do not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. These amendments are considered nonsignificant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). A regulatory evaluation of the amendments, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

Adoption of the Amendments

Accordingly, the Federal Aviation Administration (FAA) amends 14 CFR part 1 and part 33 effective August 19, 1996.

The authority citation for part 1 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

that may not be suitable for further use must be discarded and replaced in order to maintain the continued airworthiness of the engine. The existing minimum level of engine airworthiness will be maintained under this rule by virtue of new and existing design, analysis, and test certification requirements. In summary, the FAA finds that the benefits of this rule will exceed the costs.

International Trade Impact Analysis

These rule changes will have little or no impact on trade for both U.S. firms doing business in foreign countries and foreign firms doing business in the United States. In the U.S. market, foreign manufacturers will have the option of designing engines and helicopters capable of satisfying the new **OEI** ratings and therefore will not be at a competitive disadvantage with U.S. manufacturers. Because of the large U.S. market, foreign manufacturers are likely to certify their rotorcraft to U.S. rules, which will limit any competitive advantage U.S. manufacturers might gain in foreign markets.

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Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not a significant regulatory action under Executive Order 12866. In addition, the FAA certifies that these amendments do not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. These amendments are considered nonsignificant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). A regulatory evaluation of the amendments, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

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that may not be suitable for further use must be discarded and replaced in order to maintain the continued airworthiness of the engine. The existing minimum level of engine airworthiness will be maintained under this rule by virtue of new and existing design, analysis, and test certification requirements. In summary, the FAA finds that the benefits of this rule will exceed the costs.

International Trade Impact Analysis

These rule changes will have little or no impact on trade for both U.S. firms doing business in foreign countries and foreign firms doing business in the United States. In the U.S. market, foreign manufacturers will have the option of designing engines and helicopters capable of satisfying the new **OEI** ratings and therefore will not be at a competitive disadvantage with U.S. manufacturers. Because of the large U.S. market, foreign manufacturers are likely to certify their rotorcraft to U.S. rules, which will limit any competitive advantage U.S. manufacturers might gain in foreign markets.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (**RFA**) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionately burdened by Government regulations. The **RFA** requires a Regulatory Flexibility Analysis if a rule would have a significant economic impact, either detrimental or beneficial, on a substantial number of small entities. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, establishes threshold cost values and small entity size standards for complying with **RFA** review requirements in FAA rulemaking actions. A review of domestic engine manufacturers indicates that none meets the minimum size threshold. As such, the FAA has determined that this rule will not have significant economic impact on a substantial number of small entities.

Federalism Implications

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not a significant regulatory action under Executive Order 12866. In addition, the FAA certifies that these amendments do not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. These amendments are considered nonsignificant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). A regulatory evaluation of the amendments, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in the docket. A copy may be obtained by contacting the person identified under "FOR FURTHER INFORMATION CONTACT."

Adoption of the Amendments

Accordingly, the Federal Aviation Administration (FAA) amends 14 CFR part 1 and part 33 effective August 19, 1996.

The authority citation for part 1 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

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Flame resistant means not susceptible to combustion to the point of propagating a flame, beyond **safe** limits, after the ignition source is removed.

Flammable, with respect to a fluid or gas, means susceptible to igniting readily or to exploding.

Flap extended speed means the highest speed permissible with wing flaps in a prescribed extended position.

Flash resistant means not susceptible to burning violently when ignited.

Flight crewmember means a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during **flight** time.

Flight level means a level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 25,000 feet; flight level 255, an indication of 25,500 feet:

Flight plan means specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with air traffic control.

Flight time means the time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing. (*Block-to-block* time.)

Flight visibility means the average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

Foreign air carrier means any person other than a citizen of the United States, who undertakes directly, by lease or other arrangement, to engage in air transportation.

Foreign air commerce means the carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in the United States and any place outside thereof; whether such commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

Foreign air transportation means the carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce between a place in the United States and any place outside of the United States, whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

Forward wing means a forward lifting surface of a canard configuration or tandem-wing configuration airplane. The surface may be a fixed, movable, or variable geometry surface, with or without control surfaces.

Glider means a heavier-than-air aircraft, that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine.

Go-around power or thrust setting means the maximum allowable in-flight power or thrust setting identified in the performance data.

Ground visibility means prevailing horizontal visibility near the earth's surface as reported by the United States National Weather Service or an accredited observer.

Gyrodyne means a rotorcraft whose rotors are normally engine-driven for takeoff, hovering, and landing, and for forward flight through part of its speed range, and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

Gyroplane means a rotorcraft whose rotors are not engine-driven except for initial starting, but are made to rotate by action of the air when the rotorcraft is moving; and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

Helicopter means a rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

Heliport means an area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

Idle thrust means the jet thrust obtained with the engine power control lever set at the stop for the least thrust position at which it can be placed.

IFR conditions means weather conditions below the minimum for flight under visual flight rules.

IFR over-the-top, with respect to the operation of aircraft, means the operation of an aircraft over-the-top on an **IFR** flight plan when cleared by air traffic control to maintain "VFR conditions" or "VFR conditions on top".

Indicated airspeed means the speed of an aircraft as shown on its pitot static airspeed indicator calibrated to reflect standard atmosphere adiabatic compressible flow at sea level uncorrected for airspeed system errors.

Instrument means a device using an internal mechanism to show visually or aurally the attitude, altitude, or operation of an aircraft or aircraft part. It includes electronic devices for automatically controlling an aircraft in flight.

Flame resistant means not susceptible to combustion to the point of propagating a flame, beyond **safe** limits, after the ignition source is removed.

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not include a government-owned aircraft transporting property for commercial purposes, or transporting passengers other than transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. An aircraft described in the preceding sentence shall, notwithstanding any limitation relating to use of the aircraft for commercial purposes, be considered to be a public aircraft for the purposes of this Chapter without regard to whether the aircraft is operated by a unit of government on behalf of another unit of government, pursuant to a cost reimbursement agreement between such units of government, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

Rated continuous OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to the time required to complete the flight after the failure of one engine of a multiengine rotorcraft.

Rated maximum continuous augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

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Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power, with respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

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Rated 30-minute OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to a period of not more than 30 minutes after the failure of one engine of a multiengine rotorcraft.

[*Rated 30-second OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[*Rated 2-minute OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

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Rated continuous OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to the time required to complete the flight after the failure of one engine of a multiengine rotorcraft.

Rated maximum continuous augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

Rated maximum continuous thrust, with respect to turbojet engine type certification, means the

approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power, with respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated 30-minute OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to a period of not more than 30 minutes after the failure of one engine of a multiengine rotorcraft.

[Rated 30-second OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[Rated 2-minute OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

not include a government-owned aircraft transporting property for commercial purposes, or transporting passengers other than transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. An aircraft described in the preceding sentence shall, notwithstanding any limitation relating to use of the aircraft for commercial purposes, be considered to be a public aircraft for the purposes of this Chapter without regard to whether the aircraft is operated by a unit of government on behalf of another unit of government, pursuant to a cost reimbursement agreement between such units of government, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

Rated continuous OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to the time required to complete the flight after the failure of one engine of a multiengine rotorcraft.

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Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

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approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

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[*Rated 30-second OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[*Rated 2-minute OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

not include a government-owned aircraft transporting property for commercial purposes, or transporting passengers other than transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. An aircraft described in the preceding sentence shall, notwithstanding any limitation relating to use of the aircraft for commercial purposes, be considered to be a public aircraft for the purposes of this Chapter without regard to whether the aircraft is operated by a unit of government on behalf of another unit of government, pursuant to a cost reimbursement agreement between such units of government, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

Rated continuous OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to the time required to complete the flight after the failure of one engine of a multiengine rotorcraft.

Rated maximum continuous augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

Rated maximum continuous thrust, with respect to turbojet engine type certification, means the

approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power, with respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated 30-minute OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to a period of not more than 30 minutes after the failure of one engine of a multiengine rotorcraft.

[*Rated 30-second OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[*Rated 2-minute OEI power*, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

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Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

Rated maximum continuous thrust, with respect to turbojet engine type certification, means the

approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power, with respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated 30-minute OEI power, with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, and limited in use to a period of not more than 30 minutes after the failure of one engine of a multiengine rotorcraft.

[Rated 30-second OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[Rated 2-minute OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

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Rated maximum continuous power, with respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under part 33, and approved for unrestricted periods of use.

Rated maximum continuous thrust, with respect to turbojet engine type certification, means the

approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power, with respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff thrust, with respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

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[Rated 30-second OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

[Rated 2-minute OEI power], with respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the

